

Jan. 10th 1829
46 Sansom St.

Dr. P.

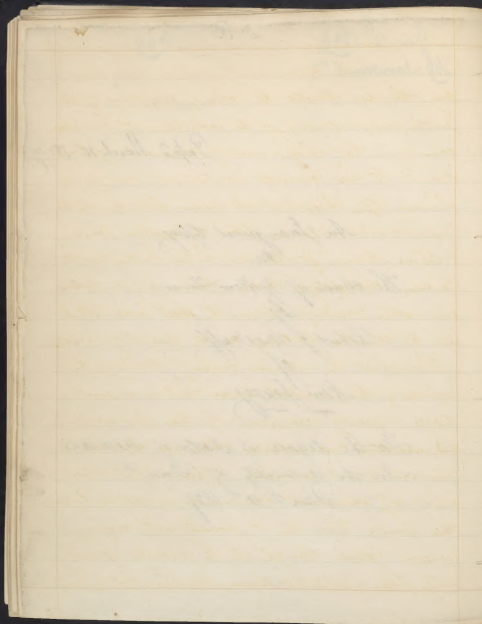
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Recd March 10 1829

An Inaugural Essay
on
The cause of yellow fever
by
Robert J. Moorhead
of
New Jersey.

For the degree of Doctor of Medicine
In the University of Penn^a
Jan 7th 1829



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The disease, which, perhaps more than any other, has attracted the notice of physicians, of the public, and particularly of the inhabitants of our own country, is that which is usually designated "yellow fever". It has committed very extensive ravages in human life, throughout all warm latitudes, whether inter or ultra-tropical, from the eastern frontier of China, through farther and nearer India and the Indian Archipelago, Persia, Arabia, and the eastern and western coasts of Africa, the West India Islands, and the countries bordering on the Gulf of Mexico.

Throughout this extensive range of territory, the sources of this formidable disease exist in a great degree, frequently accompanied by those favourable and ascertained circumstances which are essential to their activity and destructive influence, and which are of only occasional occurrence in regions beyond these limits. There then it prevails with varying degrees of violence through all the gradations of universality from a sporadic disease attacking but a few

The first of these is the
fact that the number of
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individual, up to a wide spread epidemic whose track is marked by destruction and death. But the ravages of this scourge have unhappily not been confined within the boundaries which have just been mentioned. Its cause has found "a local habitation" in almost every region. A yellow fever has, at times, prevailed with epidemic violence throughout the United States, at Copenhagen, in Holland, in the Netherlands, in Austria and Hungary, in the southern cities of France, in Spain, Sicily and Greece.

In all these places its existence is recorded at as distant a period, be it remembered, as medical history extends to, appearing under precisely the same nature, manifesting the same phenomena, governed by the same laws, and prevailing under the same circumstances of situation and season as at the present day.

Of an epidemic, so extensively prevalent, and which has become interesting to us by sad and frequent experience, it is of consequence that we should be acquainted with the cause, in order that those, who preside over the health, and thereby the

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suffrages of their fellow men, may, if practicable, remove
it. This is a subject on which medical opinion has
been much divided, and which has been disputed with
ardour and even acrimony. The two principal opin-
ions, and those ^{alone} which it is necessary to notice, are those
which refer the origin of the disease to miasmata
and to contagion. There are some indeed who
think they can reconcile the conflicting statements
and creeds on this subject by asserting that the dis-
ease originates naturally from miasmata,
but may acquire a contagious property by such
circumstances, as crowding, filth, and deficient ven-
tilation. This is obviously a gratuitous assumption,
~~that the disease is contagious, and that it is not~~
~~contagious, and that it is not~~; for if the disease ever arise
from one of those causes, it is certainly never pro-
duced by the other: it cannot have both a mias-
matic and a contagious origin. Though from the
almost infinite number of publications on the sub-
ject of the cause of yellow fever, it is impossible
that my acquaintance with it can be otherwise

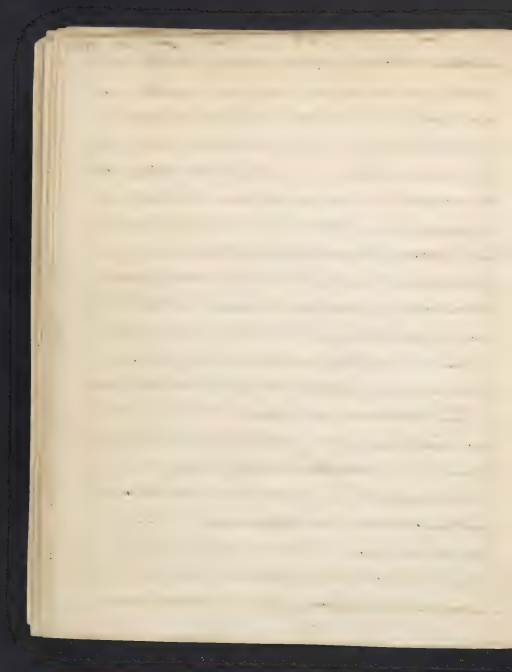
than partial, yet my reading has been of those and
those who are looked upon as the pillars of their res-
pective sides of the controversy and who have no
doubt done justice to their cause. From such sources
of information, and with such fair means to fix
my belief on either side of this controverted question,
I must unhesitatingly and unqualifyingly declare
that I do not know a single fact or argument to
countenance the belief that the yellow fever ever
was in a single instance communicated from one
individual to another, that it ever originated from
any other source than miasmata; or that its nature
is not the same as that of intermittent and remittent
fever, from which it differs in degree of malignity
alone. On the contrary I believe that there is almost
an unpar^{alleled}~~alleled~~ accumulation of incontrovertible
testimony, as well authenticated as that which sup-
ports any the most firmly established opinion; and
infinitely ~~more~~ complete and conclusive than what
is capable of being adduced in proof of ninety-nine
hundredths of accredited and universally admitted (even

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modern) historical facts, in support of the belief that ⁷
yellow fever has always arisen from vegetable mias-
mata; that it is of the same nature as intermittent fe-
ver; that it always has been, and always will be, equal-
ly incapable ~~with it~~ of being generated ~~and~~ ~~or~~ ~~propagated~~
or propagated by a specific contagion. That yellow fe-
ver arises from vegetable miasmata I infer from the
same grounds from which I infer the miasmatic origin
of intermittent and remittent fevers, viz that it never
appears except in places and at times when these miasms
exist in a certain degree, and that it never fails to
appear at such times and places, and that the same
is untrue with respect to every other alleged cause.

"In Jamaica," says Dr Hunter, "the fevers in the
most healthy seasons are generally intermittent; in the
rainy and other ~~and~~ ~~that~~ unhealthy seasons remittent!"

In temperate climates, regular intermissions prevail in
mild seasons; but if the heat increase in intensity, or
the sources of miasmata be very abundant and the in-
dividuals be either much exposed or unacclimated, the
paroxysms will be more violent and protracted into a



remittent or even a continued fever; This is proclaimed
throughout the whole of Sir John Pringle's volume, "The
epidemic of autumn," he tells us, "and prevailing distemper
of this [the Netherlands] and other marshy countries, is a
fever of an intermitting nature, commonly of a tertian form,
but of a bad kind; which, in the warmest places, and worst
seasons, appears as a double tertian, a remitting, a continued
putrid, or even an ardent fever;" Again, "The proportion
to the coolness of the season, to the height and dryness of
the ground, this fever is milder; remits or intermits
more fully, and recedes further from the nature of a
continued putrid, or an ardent fever;" (p. 7) Speaking of
the bilious fevers of the marshes, the same author observes,

"These marsh fevers are not only apt to begin with
little remission, but after intermitting for some days, to
change again into continued fevers of a putrid and ma-
lignant nature; It is remarkable how much they vary
with the season; for however frequent, violent or dan-
gerous they have been in the decline of summer or begin-
ning of autumn, when the putrefaction is at the height,
yet before winter they are reduced to a small number;

become mild, and generally assume a regular tertian form." ¹

[p. 156] I might were it necessary extract from the same author numerous other passages of similar import. His description of the bilious fever of the camp and of the marshes shows that it varies in its degree of malignity, from a simple intermittent through all the intermediate gradations up to a putrid continued fever, according to the intensity of its cause, the season, the situation of the men, and the other accipere causes.

Lind has inculcated, throughout his whole work, the same opinion; and Dr Rush mentions that "the different grades of bilious fever, from the mildest intermittent to the most acute continued fever, have been distinctly traced by Lancisi to the same moral exhalation."

The regular intermittent therefore may be considered as the endemic of temperate climate and seasons; and though it often prevails among the natives in tropical regions, when the sources of miasmata are not very concentrated, or the heats intense, as on the mountains of the West-Indies, it is never found epidemic in the neighbourhood of the equator. It is in these extensive and

unhealthy regions, that the remittent fever prevails, 8
during the long season of sickness, with great and
often destructive malignity. This is the grand epidemic,
the morbus regionalis of equatorial latitudes, and rises
into a continued or yellow fever in summer of unusual
heat particularly among those not perfectly acclimated to
the climate. It is this, that in its aggravated form, has
cut down the warriors of Colonists from the North of Europe,
that for some centuries past have been poured upon these
unfriendly settlements. The Dutch have melted away before
the annual sweeps of this malignant pestilence on that
speck of Earth where they have fixed their Indian capital,
the hot bed of disease, where "all life dies; death lives." But
Great Britain has perhaps most reason to reflect with sor-
row on its destructive ravages. Wherever in intertropical
regions, Britain's enterprising and extended British dominion
whether throughout the peninsula of India, on the coast of
Africa, or in the unhealthy seaports of the West India
Islands, there has she beheld the bloom and health and
vigour of her country falling by, piecemeal before this
relentless maledict. It appears that several conditions

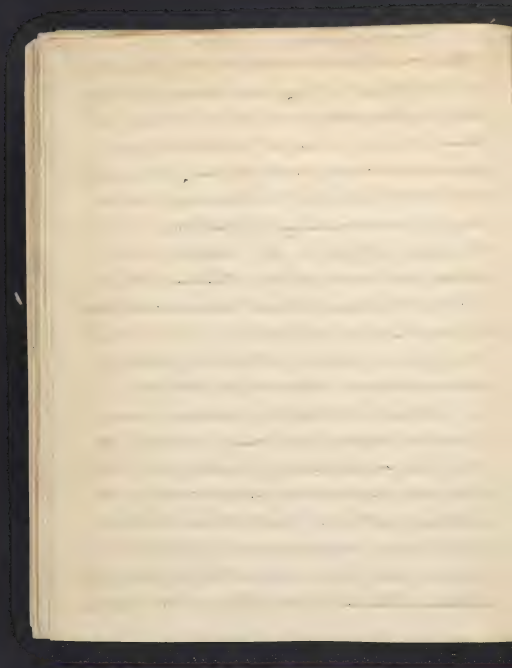


are necessary to the existence of yellow fever, so that its prevalence in any place is dependent not on an individual agent, but on a concurrence of circumstances, viz the sources of the miasmata of vegetable decomposition, a steady proclivity of high atmospheric temperature, and that degree of susceptibility or absence of insusceptibility natural to the inhabitants of climate subject to a considerable annual range of temperature, that the origin of yellow fever is to be found in the concurrence of the circumstances I have mentioned, is, I think clearly made out by the authors whom I have read on the subject, but as every inch of this ground has been an object for digression, it will be proper, without a formal citation of facts, which would be an endless task, to refer to a few of the sources of proof in order to exemplify its nature, and to state some of the general consequences deducible from it.

Dr Bancroft has, with much research, traced the history of yellow fever in many of the West India Islands, in nearly all the large towns of the United States, and in three cities of Spain in which it has prevailed as a malignant epidemic. He has given the topography of each

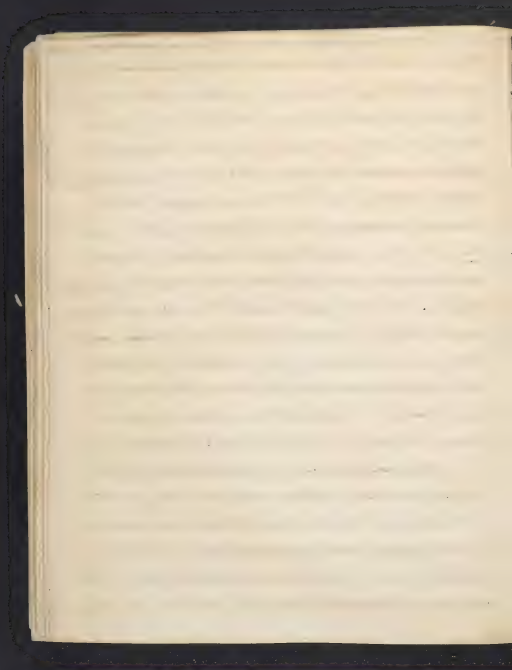


of these places with great minuteness, In all of these situa-¹⁰
tions, he has pointed out very copious sources of the mis-
mata of vegetable decomposition, marked the limit of the
offensive cause and shown that the disease has never
transcended the boundary assigned, conformably to the circum-
scribed extent, beyond which, as I have already illustrated,
there is the most convincing proof that the vis nocens
is incapable of being borne by the atmosphere with the
relaxation of its morbid efficacy. The same author has
pointed out the sources of miasmata on ship board,
and has given a number of instances in which he has pla-
ced it beyond a doubt that yellow fever originated from
such sources under a cooperation of the other agents which
are indispensable to the effect in question. In many of
the medical journals of this country particularly the
New York Medical Repository are to be found histories
of the yellow fever as it has appeared at various times
in different parts of the United States, in all which
that I have seen, very copious sources of miasmata
have been shown to exist at the very seat of the
epidemic. I find, in Dr James Johnson's work on tropical



climates, accounts of the prevalence of yellow fever in some 11
parts of the Indian Archipelago, at Seringapatam, in
Bengal, &c. all which places he describes as abounding in
marshes and other materials for vegetable decomposition;
yet such a disease is unknown throughout the whole sandy
coast of Coromandel. But it is not enough for the
production of disease that there be vegetable matters unless
they are in a situation to suffer decomposition. Miasmata
must be evolved during the putrefactive process before malarial
airs can morbidly affect health. It is along the drying
margins of streams of water, which have recently been exposed
to the sun, in consequence of the subsidence of the waters
on their gradual removal by evaporation that miasmata
can be formed in sufficient concentration to produce
disease. When there is a superabundance of moisture, they
are either prevented from being generated, or they are
perfectly inert and inefficient from their rarity and dilution.

In temperate climates, where the heats are moderate
and evaporation slow, vegetable matters require but
little moisture, beyond what is inherent in them in order
to undergo decomposition. But where the heats are intense



and evaporation very rapid, any superfluous moisture will soon be vaporized, and leave the organic matter exposed to the chemical agency of the sun. Hence we find that in tropical climates, soils naturally dry do not send up their miasmatic effluvia till, after the periodical rains are over, they are far advanced in the drying process, and sometimes completely exsiccated. At such times, intermittent and remittent fevers make their annual appearance in these situations. Two requisites therefore for miasmatic miasmata are rarely absent, during a part at least of the year in the generality of places, and atmospheric temperature, which forms a third, is almost annually present, during the summer months in intertropical latitudes, and occasionally so in many ultra-tropical countries in a degree to generate miasmatic effluvia of sufficient concentration to give rise to the milder grades of miasmatic diseases.

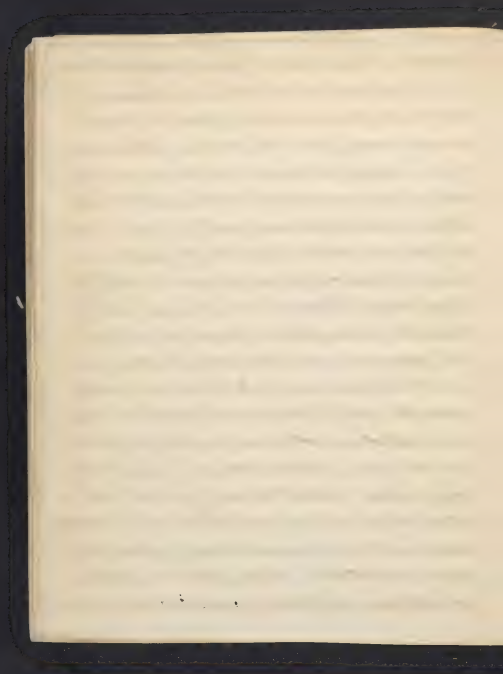
But, for diseases of a higher and severer rank, such miasmata are far too weak and dilute under that degree of relative insusceptibility possessed by natives and those habituated to a higher temperature. In such cases, the poison is incapable of effects so deleterious. Providence

has so graduated the relation between the excitability of¹³
the native and opiumated system, and the stimulus of the
virus, so that noxious agents of such perennial exis-
tence in all warm latitudes may be incapable of
extinguishing the nobility of his works. Consistently
with the preservation of the human species, malarial
effluvia of sufficient concentration to exalt their
morbid consequences through all the gradations of
miasmatic disease from simple intermittent up to
malignant yellow fever, must be of only occasional
existence. Accordingly we find that nature has
kindly confined their production within certain ranges
of atmospheric temperature, which are of infrequent
occurrence. More ordinary degrees of heat operating
upon vegetable matters capable of generating yellow fever,
it would be found to appear upon the occurrence of
every summer in more than half the countries in the
world. It requires for its production, as has been already
stated, a previous duration of unusually high tempera-
ture. It therefore, as before observed, rests very much
with the degree of heat to determine its existence in

any place. This is the great regulating agent which limits its appearance down to a more occasional visitation, moderate temperature produces a poison powerful enough for intermittent; a higher temperature is necessary for remittent; whilst one unusually exalted is indispensable for an epidemic yellow fever.

That this should be the case, would, a priori, be expected by one who believed in the identity of nature and diversity of degree only of these diseases; the reality of which identity I shall make it my business, presently, to illustrate in order further to confirm the correctness of the ascription of yellow fever to a miasmatic origin.

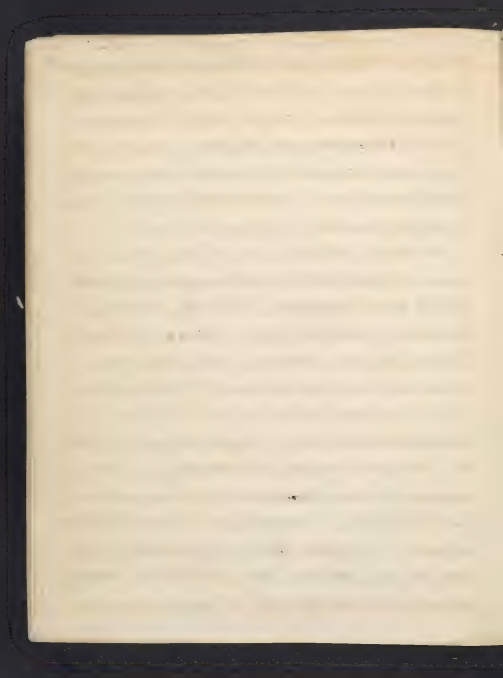
But, the dependence of yellow fever upon a steady insolation of high atmospheric temperature in miasmatic districts, or rather upon vegetable miasma of such a degree of concentration as is incapable of being produced without the agency of such a temperature, is to be positively proved by a reference to facts alone. In all the numerous histories of epidemical yellow fever collected by Dr Bancroft, and which are not called for a particular purpose, but are all that



he could find records with any degree of accuracy and on 15th notices in the space over which he has passed, are found statements of the temperature, previous to and during the prevalence of the disease and also upon its decline and cessation, these are all from authentic sources, and many of them official, so as to place their correctness beyond the possibility of suspicion. In every instance the temperature was steadily unusually high for some time previous to the appearance of the epidemic and also during its continuance, and in no case did the disease decline till the reduction of the temperature, at which time it uniformly ceased. So certainly is this the case at Philadelphia that it is a matter of mathematical accuracy; for it has been ascertained by records of temperature since the year 1793, that, in that city, yellow fever has prevailed every summer in which the average heat of June and July has exceeded 79 degrees, and that it has proved most destructive when the thermometer has indicated the greatest elevation. Without ascending further into particulars, suffice it to say that in every history of an epidemic yellow fever in which the degree of temperature has been

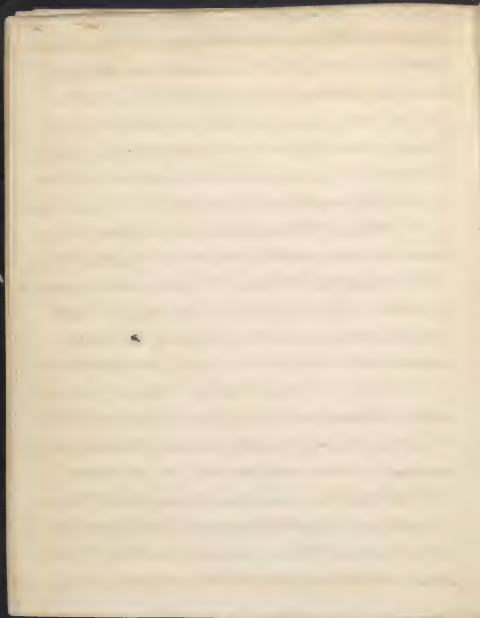
recorded, it has been stated to have been maintained for ¹⁶
a long time at an unusual height at the seat of the
disease, and to have declined and ceased on the suppression
of cord. As this state of the atmosphere is attended with
long continued drought the vegetable world is generally
a partaker with man in the wide spread calamity, and
is often the unwelcome harbinger of the sequel.

I am aware that there is much ground for misappre-
hension on this subject, and that so general a deduction
is liable to misinterpretation. It has been judiciously
remarked by Dr Eichen that, in climates where the tem-
perature is variable, results drawn from the greatest and
smallest elevations of the thermometer at certain periods,
give no information respecting the mean temperature; for
from inattention to this point, in discussing the question whether
the heat might be considered as extraordinary in epidemic
seasons, it has been affirmed that the heat was greater in
some healthy, than in unhealthy years, because the thermom-
eter rose a few degrees higher in the former than in the
latter. The same author tells us that in the Carribean Archipelago
the temperature is not only high, but equally and durably so;



and from its little variation in this respect, he considers the
yellow fever as the legitimate product of the climate; for
in the more Southern colonies on the Continent, where,
from the vicinity of woods, mountains &c; the temperature,
though often as high, is not uniformly so; and where
the winds are more variable, and the nights cooler, the disease
is much less prevalent, and oftener assumes a remittent type.

The College of Physicians appear to have fallen into an
error on this point in their report to the Privy Council,
wherein they express the belief that yellow fever may prevail
in Britain, because, they say, the temperature of Gibraltar
when the disease prevailed there fell short of the average
summers heat in England, But in repl. to this statement,
it has been well observed that in those places in
North America and the Spanish Peninsula, which
have been occasionally visited by the epidemic, the me-
teorological observations concur in the pre-existence of
high atmospheric temperature for many weeks before
its appearance; whilst temperature to this requisite
extent seldom obtains in England, and when it does
occur in a climate of so mutable a character, is very



transitory and evanescent influence is totally inadequate to the production of the disease. Another avenue for the admission of error into our estimate of the degree of temperature in any situation is the presumption of its equality under equatorial parallelism and proximity of locality. The difference between corresponding latitudes in the two hemispheres has been estimated at between 12 and 15 degrees, and the dissimilarity of climate, even between the eastern and western sides of the New Continent, is sufficiently great to reflect a very striking influence over the malignity of disease. At Lima, for example, which is but a little farther on one side of the equator than Carthageua is on the other, the heat is far more moderate, and at Linto, though close to the line, the thermometer does not rise so high in summer as it does at Paris. On the opposite side of Mexico, where the distance is much less than across the other parts of the continent, the effect on disease is so considerable, that while Vera Cruz is considered as the chief seat of the vomito, bilious & yellow fever; it has never been observed on the West Coast of New Spain, though bilious fever & cholera



morbus are there found to prevail. Even in the short 19
distance of sixty miles between Panama and Porto Bello,
the difference is so perceptible, that, as Ulloa remarks the
Garrison detachments sent from the former to the latter,
"though coming from a place so near, are affected to
such a degree, that, in less than a month, they are so
debilitated, as to be unable to do any duty, till custom
again restores them to their strength".

In equinoctial regions, the effect of elevation is
equivalent to that of latitude. The Mexican mountaineers,
we are told, in descending the eastern declivity of the
Cordillera from Cerote to the coast, in sixteen hours
are transported from the temperate to the torrid zone,
and suddenly plunged into the extremely hot and
deleterious atmosphere of Vera Cruz and thus exposed
to all the dangers of a new and fatal endemical dis-
ease. In ascending this elevation, says Humboldt,
the sight of the Mexican oak, at the foot of Al Conero
which is 3543 feet above the level of the ocean, quiets
the alarms of travellers newly landed at Vera Cruz. Its
presence demonstrates to them that they have left behind



them the yore so justly dreaded by the people of the 20th
North, under which the yellow fever exercises its rav-
ages in new Spain. The difference of temperature
between cities and the surrounding country will help
to account for the far greater frequency of occurrence
of yellow fever in the former than in the latter situ-
ation; This frequency has erroneously been supposed
to favour the notion of the importation of the disease,
and its dependence on contagious communication.

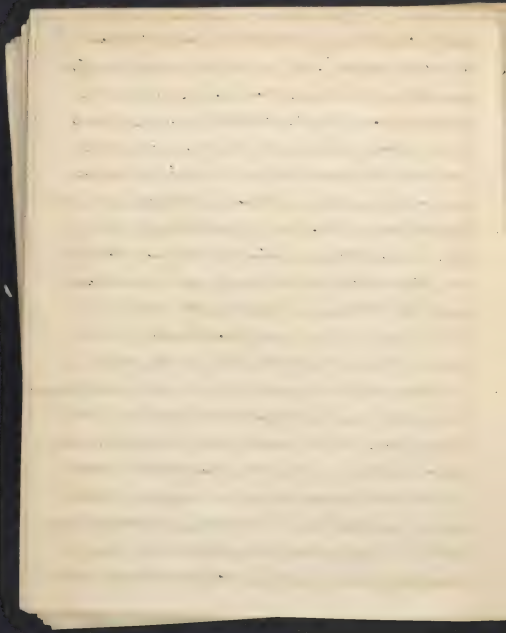
The reality of such communicable power will be
considered in its proper place; mean time, the fact of
which I am speaking is referrible to another cause,
and completely explicable on a different principle.

Any person who believed yellow fever to be the result
of the combined operation of the circumstances I have
mentioned, would at once pronounce, before he was ap-
prized of the fact, that this disease would appear infinitely
more frequently in cities than in the country. Large
towns endure a much higher range of temperature
than the country and at the same time present more
ripe and abundant materials for decomposition than the

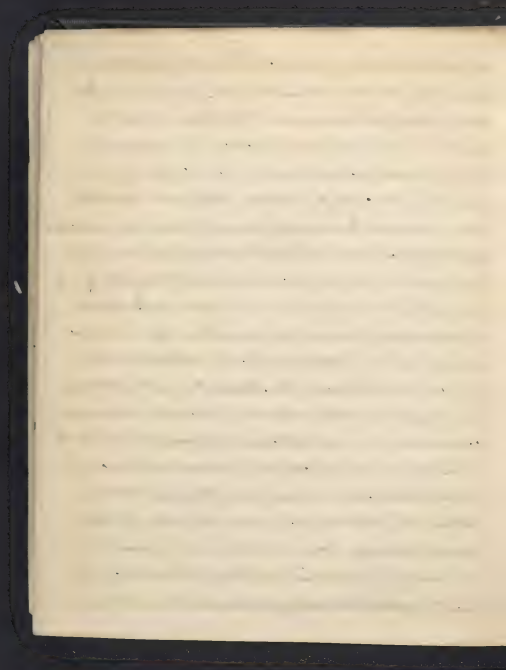


West India the country is open and in general exposed 21
to cool and refreshing breezes, whilst the towns, as before
remarked, are, for the sake of commerce, positioned in low
ramp situations, in vallies about the openings of rivers
and the bottoms of harbours and other large inlets of water,
from which the winds are shut out, and where the whole ex-
cise of the vegetable world accumulates, stagnates, and
decays beneath the fierce unmitigated beams of a burning
sky. In North America also, the cities are notoriously
many degrees hotter than the country, and in seaports espe-
cially, the collections of vegetable matters at the wharves
send up effluvia of a degree of concentration equal to
what is to be met with elsewhere, in those seasons, in
particular, which long continued heats and unusual droughts
have afforded such materials ample opportunities for
decomposition. For the reasons above mentioned, as well
as for another very efficient one presently to be noticed,

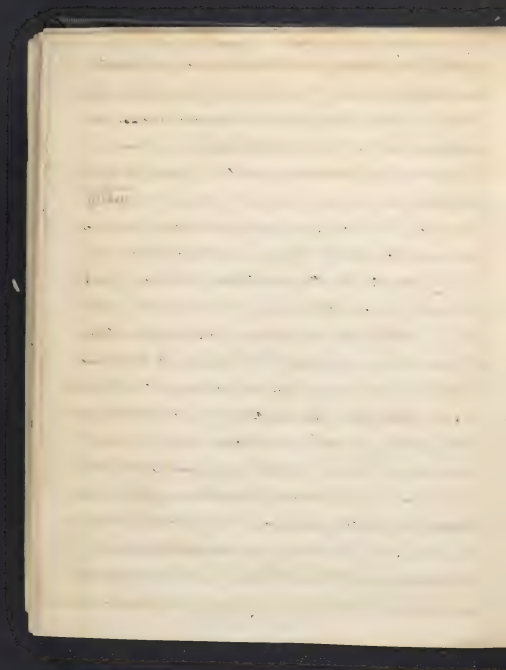
Yellow fever always has been and, unless very different
sanitary regulations than what at present obtain be insti-
tuted and rigidly enforced, always will be a disease
principally of low, crowded, and commercial cities, whilst



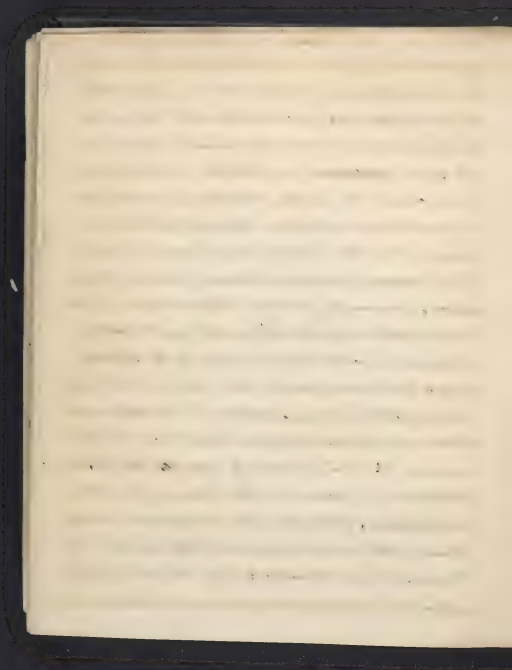
the higher and more airy situations have nothing to fear 29
from it, though I could adduce numerous instances in which,
during intensely hot summers, it has broken out and pre-
vailed in low miasmatic districts in the interior of the
Country under circumstances in which all possibility of
importation was certainly precluded. All of our towns, that
are situated on low marshy ground, for maritime purposes,
particularly those at the South where every thing, even health,
is disregarded in the eye of Commerce, must during every
unusually hot and dry summer be more or less the seats
of yellow fever. The ponds and marshes in their immediate
vicinity, the large extent of shore left exposed to a hot
sun on the subsidence of the streams during long droughts,
the decayed vegetable material of which the wharves are
composed and the vast collections of organic remains with
which they are almost constantly covered and surrounded
furnish materials for disease of nearly unequalled concen-
tration when operated upon for a long time by heats of
unusual intensity. Some situated on low ground in
the vicinity of marshes, was, during her infancy, fre-
quently subjected to wasting epidemics. When at the



height of her prosperity and magnificence, the marshes ²³
were drained and the city preserved free from impurities and
filth, it became healthy, and miasmatic diseases were
no longer heard of. But when the empire was overrun
by the Northern Barbarians, and the aqueducts broken
up, Rome became again the seat of frequent and ~~pestilential~~^{malignant}
epidemics. These Roman vigilance and Roman munici-
pal regulations applied to freeing our seaports from the
marshy grounds, the alluvial collection, the black vegeta-
ble mould which fattens their outskirts, and the organic
remains that ^{are} suffered to putrefy in vast accumulations
at their wharves, they might bid defiance to the ravages
of yellow fever, or even offer a premium for its impor-
tation within their limits. As they are at present dit-
tuted, containing within their bosom such abundant
materials for disease, exposed every year as they are
to a degree of inter-tropical temperature sufficient to
develop the milder gradations of miasmatic malady in
the native system and one of a severer type in the
stranger from a northern latitude, they must remain at
the mercy of the season, suffering, as they have heretofore done

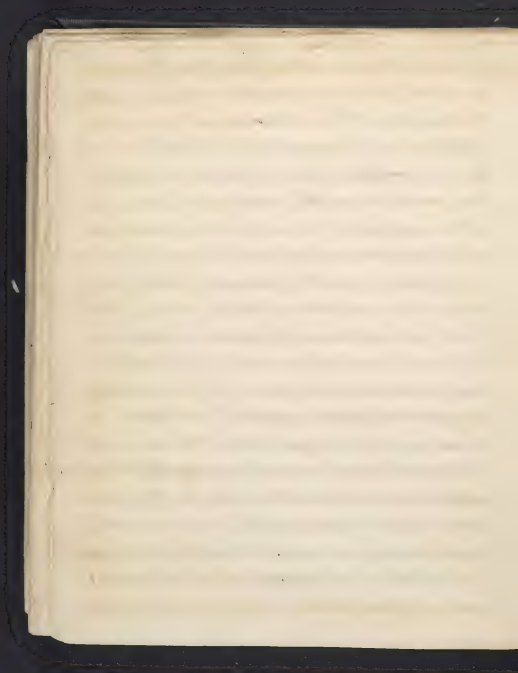


a general yellow fever, whenever the heats are unusually ²⁴
and steadily intense, and which will continue till either
the gradual superintention of cold, or the salutary deluges from
the clouds shall have reduced the temperature, refreshed the
atmosphere, ~~precipitated~~ precipitated the marsh miasma-
ta and checked their further production and exhalation, and
invigorated the animal system. Conformably to the above
views, we find that, in all the reports at the South, the
milder gradations of miasmatic disease prevail in the out-
skirts and surrounding country, whilst yellow fever is rife
in the neighbourhood of the wharves. This greater elevation
of temperature in cities affords a solution of the sporadic
existence of this disease for some time previous to its sudden
bursting forth as a general epidemic, and explains all
the erroneous opinions that have resulted from this phe-
nomenon. As the heat of the city is greater than that
of the country, the former will have become sufficiently in-
tense to generate yellow fever from the occasional sources
of disease within its limits, before the latter has risen to
the requisite height to extricate from the marshes mias-
mata sufficiently powerful to produce an epidemic. But



if the temperature rise still higher, these latter will 23
send forth effluvia of sufficient concentration to render
the disease general: hence a sporadic yellow fever may
be produced from local causes before the heats have risen to
the height requisite to generate an epidemic;
from general sources, the preceding circumstances are
I think sufficient to account for the epidemic preva-
lence of yellow fever whenever and whenever it has prevailed.

I would now offer this absence as a reason for its
absence whenever and whenever it has been absent, I think
it will explain the absence of the disease in situations free
from vegetable matters and in countries in which the heat
never attains the elevation and duration which has been specified
as requisite to the effect in question. It will explain its
absence, in countries subject to it, in those years in which
the temperature is not permanently unusually high; its nonuniform
repetition, in summers when it does occur, on the superabundance
of cold, or the fall of considerable quantities of rain; and the fact of
its never prevailing in the winter. We have a right to require
of those who believe in the contagious origin of yellow fever, to
inform us how these phenomena are solved by their hypothesis.

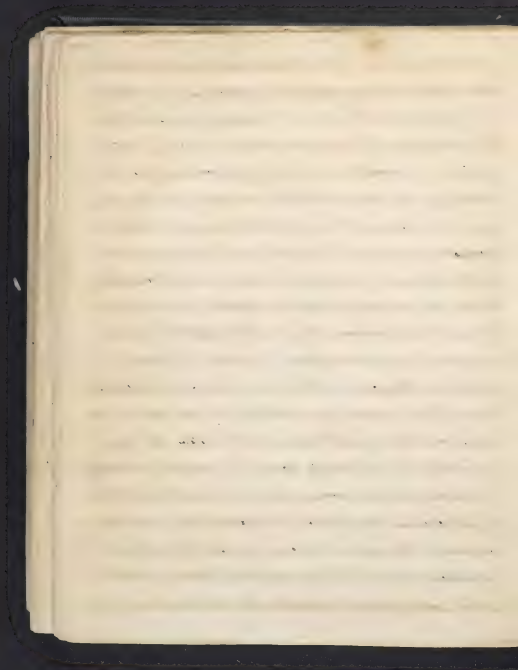


Accordingly I shall not omit, when I come to consider 20
the merits of that case as explanatory of the disease in question,
to examine whether the phenomena it is universally acknowl-
edged to exhibit correspond with such as we would a
priori expect it to exhibit if it depended for its origin
and propagation on a contagious principle. There is one impor-
tant circumstance yet to be noticed before concluding the
consideration of the miasmatic origin of yellow fever. I have
hitherto been speaking of it exclusively as an epidemic
prevailing among the natives of a country. I am now to say
a few words in explanation of its appearance as a sporadic
disease confined in its attacks to foreigners. In this case, the
above conditions mentioned as essential to its existence may
appear not to have been complied with, and the disease may
seem to have destroyed the laws which I have mentioned to
govern its production; but let it be remembered that the
force of stimuli is always relative to the excitability of the
system to which it is applied, and that a quantity of virus
perfectly inoperative and innocuous in a relaxed state of exci-
tability would prove adequate to its arrangement to disorgan-
ization in an opposite condition. The native system is placed

At the end of the day, all the
the children of the house were at the
table and the day was over.

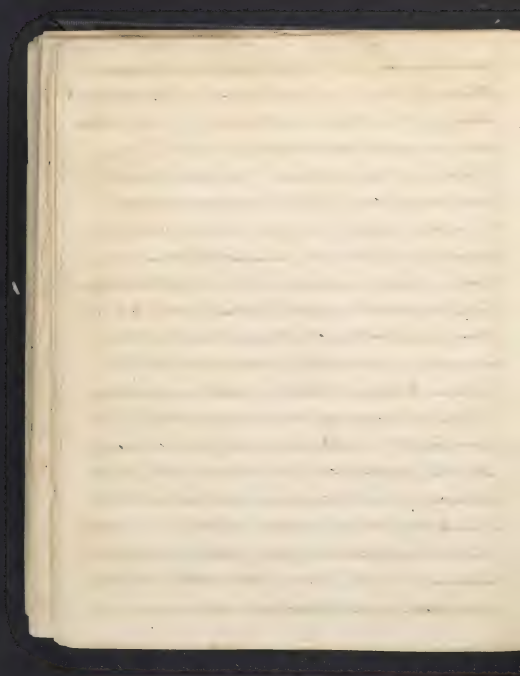
beyond the influence of climate, and has therefore to contend 27
against the individual agent, the malarious miasm alone.

It is only then, when this is unusual and excessive, that
it produces malignant effects; which will always ratio-
paribus be graduated in intensity proportionately to the
intensity of the cause. But the unacclimated and conse-
quently unsophisticated has a double agency to contend
~~against~~ against, and his system, debilitated and excited
by the influence of a foreign climate, would be unable
to resist the power of a stimulus altogether inefficient in
the native, and become very morbidly affected by a force
incapable of aggravated effects in the latter. The excessive
temperature therefore, which has been mentioned as indispensable
to an epidemic yellow fever, although it does produce some
dispositional tendency to disease in the native as being
higher than he is habitually exposed to, is operative principally
in exalting the vis miasmatica, marsh miasmata, in degree
of perfection and concentration. In seasons then of ordinary
temperature the native is secure against the malignant
gradations of disease: his insusceptibility however is not
determinate, specific, or absolute, like that conferred by the



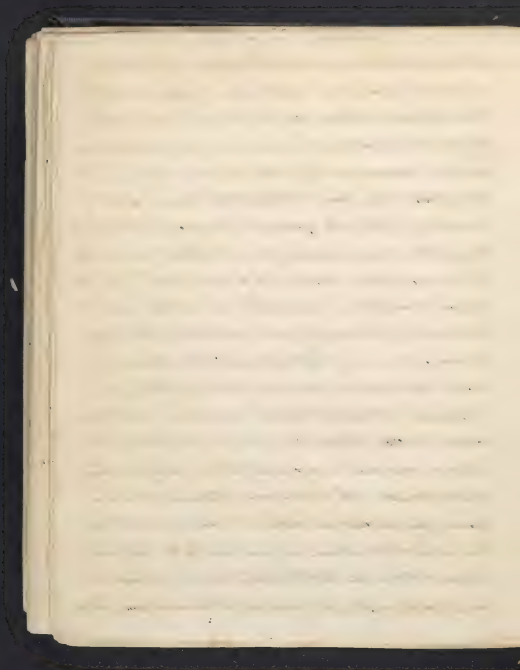
various persons, but is altogether relative and contingent,"¹
Dependent for its duration, on the seasons and, to adopt the
language of Mr. Shepherd, to be acquired as certainly, though
more gradually, by tropical residence, as by having passed
through an attack of the disease - a condition of habit which
confers security only when the concentration and force of
the endemic causes do not exceed the degree to which the
individual may have been previously habituated; - and
lastly a means of exemption which is liable to be destroyed
by the regenerated susceptibility which a return to a res-
idence in a northern climate effectuates. This relative
and contingent non-habit in the native has been
mistaken by some writers for a complete unsusceptibility,
and they have accordingly told us that an attack of yellow
fever, like that of small pox, confers future immunity.
But this is perfectly disproved by fact; and yellow fever like
its kindred miasmatic diseases, intermittent and remittent, is
known to attack the same individual repeatedly, and must attack
whenever he is exposed to the agency of these circumstances whose
concurrence is a sine qua non to its epidemic prevalence.

An attack of yellow fever confers no more immunity



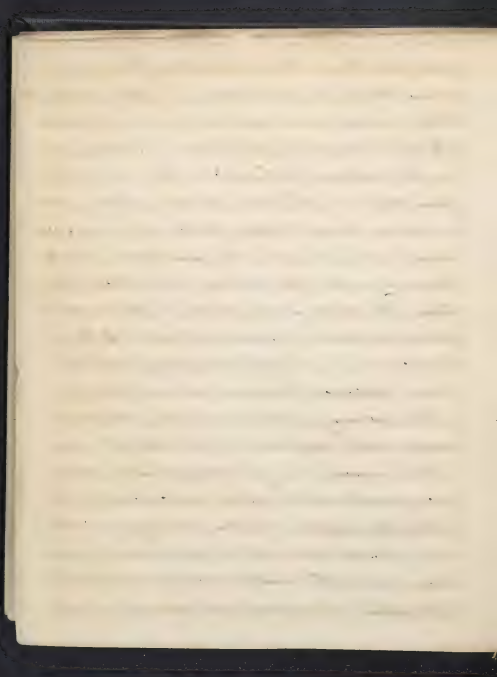
on the system than an attack of intermittent. It contains
nothing specific; it is quite ordinary. The relative unsuscep-
tibility is a mere circumstance, consisting only in the reduction
of the high, inflammatory diathesis; common to all those who
are full of vigour and health, and to be obtained as completely
by an attack of any other disease, or a course of depleting remedies,
or by exposure to any debilitating operation, as by having gone
through a fit of yellow fever. The reason therefore is perfectly
obvious why a native of the West Indies is rarely attacked by this
disease. His climate is nearly uniform; he feels no severity
of winter to induce in his system a phlogistic disposition, and
thereby create in him a state of susceptibility; which the
ordinary intertropical temperature of summer cooperating
with the ordinary quantity and concentration of miasmata,
would be sufficient to elicit into yellow fever.

But in seasons of unwonted intensity of heat, he stands
as one unacclimated. his system, unaccustomed to such
a temperature suffers a reduction of tonicity, and a change-
ment of function, which, with the contemporaneous augmen-
tation in power of the miasmatic or noxious agents with which
the atmosphere is then supersaturated, expose him, though in



a less degree than the foreigner, to their malignant influence. It

In such seasons, and in such alone is yellow fever epidemic between the tropics. At other times, the natives suffer only the milder gradations of miasmatic disease, as intermittents and remittents, according as they inhabit the airy elevation or the ill ventilated base-tem, the healthful country or the marshy city. But when yellow fever is epidemic, those, who suffered the disease upon a former visitation, are not the less obnoxious to an attack of it on that account. In this respect, it exhibits no partialities; for all the natives share equally its ravages; each contributes to its insatiable voracity, and may help to furnish it a harvest of victims. But as the epidemic visitations of yellow fever in intertropical latitudes are few and far between; much more so than in those beyond the tropics; and as its annual sporadic recurrence among newly arrived foreigners has been confounded with its very rare epidemic appearance among long residents and natives, the exemption of the native in this latter instance has given rise to the hasty and incorrect declaration that the disease confers a specific immunity on the system; and reconsecrates it for ever from future

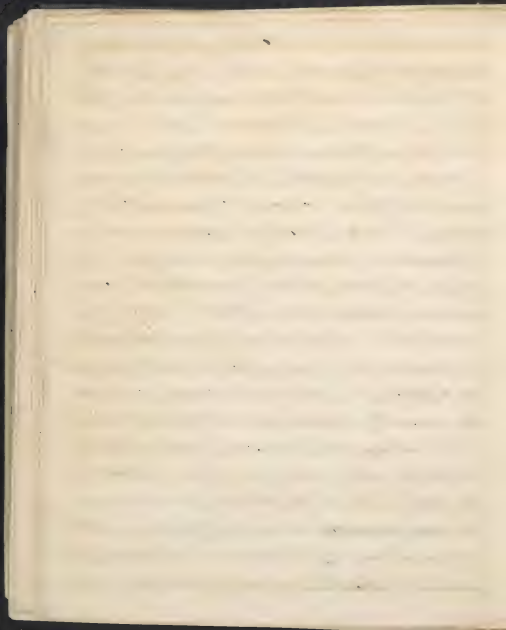


lability to an attack. But all the medical historians vol 31
have seen and recorded more than one yellow fever epidemic
have not failed to adduce numerous examples of subsequent
attacks; thus disproving the truth of the gratuitous assertion
of a specific unsusceptibility. As we advance gradually
towards the north, the winters increase in coldness, whilst
the heats of summer diminish in a far smaller ratio:
the annual range of temperature is therefore greater, till,
when we arrive in our middle and eastern states, it is
augmented to 80 or 90 degrees, thus our northern years
combine the extremes, elsewhere unknown, of a nearly
tropical summer with a hyperborean winter. This
intercourse of cold renders the susceptibility which
had ~~been~~ been much diminished during the procreting
summer, and will forever prevent our inhabitants from
becoming assimilated in these northern latitudes. A
Philadelphian or Bostonian is therefore always liable,
and may be attacked by yellow fever every year of
his life, just as he and the West Indian may be by
intermittent or remittent; the system is ready for it,
and nothing is wanted save the application of the



nocent power. Whoever deliberates upon these facts I
may answer many questions and solve many difficulties
that have been inconsiderately raised upon this subject.

He will no longer place yellow fever and
small pox on the same footing with regards to the
influence of susceptibility; but whilst he looks upon
one as strictly and exclusively communicated by
contagion under all states of the system and all degrees
of disposition, and also as conferring a specific immu-
nity for the future, he will regard the other as an
epidemic disease, governed, like other epidemics, by
ascertained and uniform laws; a very high gradation
of miasmatic fever requiring, for its existence, a great
concentration of the nocent power operating on a sys-
tem unusually predisposed, and therefore unseasona-
led; and always, equally a seasoning fever whether it
attack the native of the tropics or the inhabitant of
the north. As, from the writings of our writers, we
are ~~well~~ frequently always rightly predisposed, it will
at once be seen why the disease is more frequently epi-
demic in ultra than in inter-tropical latitudes, and,



as strangers are continually flowing, with all their ³³
northern susceptibility, into tropical regions where
the temperature is every year sufficient to engender
miasmata of the concentration requisite for yellow
fever under such a state of predisposition, though not
in the nature, it will be as easily discovered why it is
much more frequently sporadic in the latter than in
the former. The same facts satisfactorily explain why
a visit to the West Indies during the sickly season is more
hazardous to the North American or European than
one to the East Indies or the sea ports on the Pacific Ocean.
In the former case, he is suddenly precipitated, after a
few weeks sail from his native shores, ~~with~~ with all
his health, and susceptibility into a tropical climate
and upon a region ripe in the seed of disease; whilst
in the latter, the introduction is gradual and allows the
constitution, during a long voyage through hot latitudes,
to disinvest itself of a considerable share of its original
freshness and disposition by a gradual inurement to the
temperature of the place of destination, and thereby acquire
a partial pre-acclimation. Having now mentioned

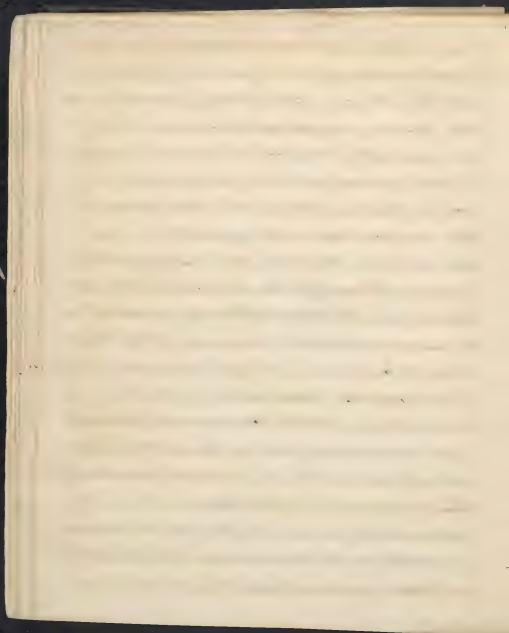


the nature of assimilation and its influence over both. 54
the sporadic and epidemic prevalence of yellow fever, I
will take the present opportunity in anticipation of its
proper place, though in order to avoid the necessity of
again alluding to this subject, to draw an argument,
legitimately deduced from it, in favor of the non-contagion
of yellow fever. This disease has been erroneously supposed
to be imported by new comers, because they are generally
the first and greatest sufferers. But in order to show
that this circumstance is entirely referable to their un-
assimilation, ~~that this~~ on the principle I have en-
deavored to illustrate, and that the infectious atmos-
phere of the place is comparatively innocuous to the
natives from habit, whilst it is highly deleterious to the
stranger coming from a pure air to a foreign climate,
it has been observed that the importation of those who
have been accustomed to a similar or a worse atmos-
phere is perfectly harmless and never followed by the
appearance of the disease among them. The exception
of the French refugees in Phil^a in 1793 ^{is, in point} ~~is, in point~~
The same is remarked by Humboldt, who tells us that



the yellow fever is unknown at Acapulco, where the 33
temperature varies only 2 or 3 degrees during the year, and
adds that, if this port, instead of being frequented by ships
from Manilla, Guayaquil, and other places of the torrid
zone, were visited by those from the pure air of Chili, from
the north-west coast of America, from Europe, or even
from the Highlands of Mexico, the bilious fever of the
place would soon appear in the aggravated form of yellow
fever and envelope itself with fatal malignity. In times
of peace and tranquility when the arrivals in the West
Indies are few, this disease appears very sporadically, and
the cases are proportionate to the number of new comers.

But let a war arise, and great multitudes of Europeans
be landed upon these Islands, particularly if the time of their
arrival corresponds with the commencement of the sickly
season, a considerable portion of them will be seized
with yellow fever within the few ensuing months, although
there exist not a case of this disease in the whole West
Indian Archipelago. The numbers would be increased
in proportion as the strangers arrived from the purest
and coldest regions in Europe, where yellow fever



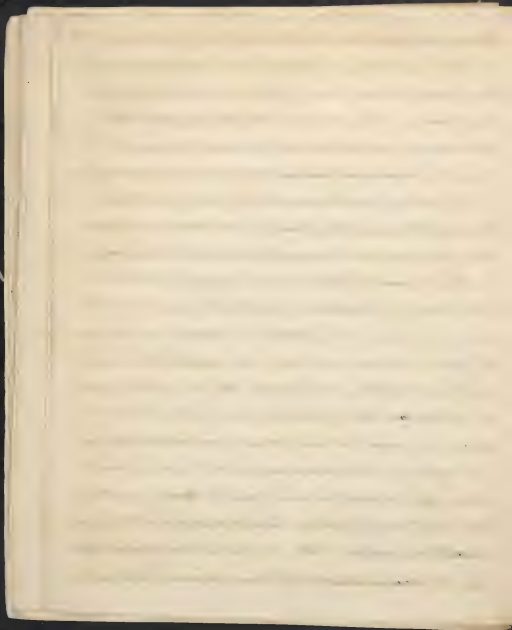
never has appeared, and consequently where the impossibility of the exportation of its contagion would be infinitely great. This would occur every year during the continuance of the war, and would cease with its cessation; though yellow fever may not have made its appearance there for many years before. These facts are perfectly explicable by a reference to the influence of susceptibility on the principles pointed out, and it is therefore unnecessary and unphilosophical to call in the agency of a second power, whose laws and phenomena are altogether inconceivable and at variance with those which govern the disease in question. It is a circumstance, both singular and unaccountable, observes Dr. Richard, that an active and spreading contagion, prevailing in any particular country, should expressly avoid the inhabitants of that country, and only lie in wait for strangers; and should these not chance to arrive for many years, that this insidious invader should fast throughout the whole period, and again rush forth with undiminished vigour, the very moment that strangers appear. Can it be supposed, he adds, that a most subtle and active contagion would remain latent,



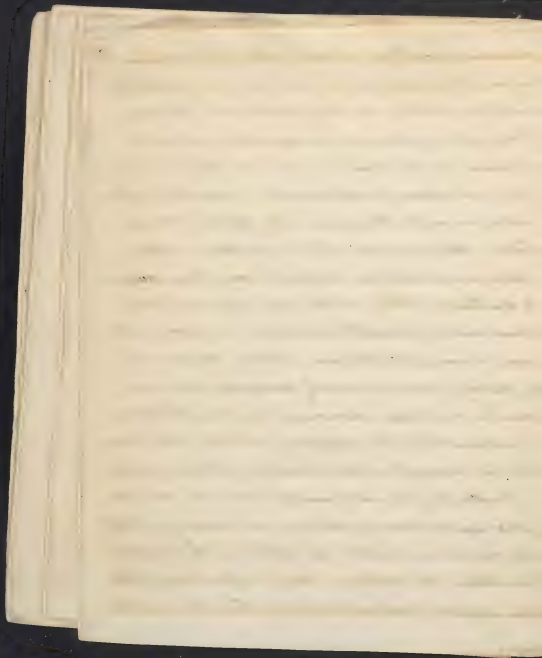
for any specified term, amidst whole hordes of natives, sect. 37
And as it were, impulsively resume all its destructive
like power, as soon as a body of more robust foreigners
should come within its reach. In this respect, yellow
fever, exactly resembles all other diseases of miasmatic
origin, and universally acknowledged to be non contagious.

The natives of miasmatic districts are less obnoxious
to malarial diseases than foreigners who occasionally visit
them; but not so to those that are certainly contagious.

The march of yellow fever is directly in the line
of the scale of acclimation. A West Indian residing
for a few years at the North, and acquiring a sanguine,
phlogistic disposition, will lose his conditional unexcep-
tionability, and return to his native country with a system
as exposed as that of the European, to the inroads of
a maledy which it had formerly confronted with fear-
less impunity. The same negro, who under a local
Indian sky, is nearly secure from the disease, gradually
loses that security as we travel northward, till, in the
middle and eastern states, he is but a few degrees safer
than the cohabitants of the same regions, with a



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remarkable exactness of selection, yellow fever manifests
a peculiar partiality for the robust, the vigorous and the
healthy. As has been truly declared, it is the disease
of manhood, of the excited, unsuppressed, full habit;
it more rarely attacks an earlier or later period of
life; and seldom females, or only in proportion, as from
intemperance or other causes, they approach to the
habit of the male sex; while old residents, whether
native or acclimated, and people of colour, though subject
to remittents and other milder forms, may be said to be
almost entirely exempted from this severe form of dis-
ease. Such partialities are not to be discovered in
the history of diseases accurately contagious; they run
counter to all these phenomena and laws. Contagion
is independent of any accession; it is the entire cause;
the tout ensemble in the production of its own disease.
It admits of no interference, but is the sole, des-
potic agent, scorning assistance, and crushing of itself
all opposition. No state of the system; no hardiness of
constitution; no weakness, laxity, or effeminacy of fibre
can retard or accelerate its attack. The native and the



foreigner; the old and the young; the robust and the infirm; the male and the female are alike its ready and indiscriminate victims. As additional evidence both of the miasmatic origin of yellow fever and of its independence on a contagious principle, I will mention some of the grounds which establish its identity of nature with miasmatic diseases. It is an error in science, leading to the admission of relative opinions to derive its nomenclature from circumstances or partial views of the subject. Its effects have been remarkably conspicuous in the particular disease under consideration. It has been invested by different nations and writers with a variety of names; drawn from what each considered the ruling or predominant symptom. Sauvages has discovered in it sufficient to entitle it to the denomination of typhus icteroides, thereby indicating it to be a compound of jaundice and typhus fever. Cullen has somewhat modified the name, and has substituted, for the icteroides of Sauvages the epithet of "cum flavidine cutis," from the yellow colour so often the concomitant of this disease. The Spaniards call it vomito Prieto or black

vomit, from a symptom which, as it is generally the 40
harbinger of a fatal termination, is of very rare occur-
rence among those who survive an attack. Some authors
have styled it Causus from the burning heat which is
so frequent an attendant; and the French have given it
the title of Maladie de Siam, because towards the
end of 17th century, a French ship of war arrived at
Martinique, with a number of French emigrants from
Siam, about the time that this disease was making
its appearance at that Island. The concurrence of these
two events was sufficient evidence of their relation
as cause and effect to invest the malady with the name
of the place whence it was said to be exported, the name
of yellow fever, by which most English and American
writers have called it, is derived from a symptom which
is not only very often wanting but is of frequent oc-
currence in intermittent and remittent fevers. I make
this remark in order to do away all prejudice and
malign influence that might accrue against the iden-
tity of this disease with those of acknowledged miasmatic
origin, and in favour of its specific, unconnected, isolated



nature. If these facts are kept in view, we shall be 41
enabled to enter on the subject before us with no partic-
ular bias, or obliquity towards error. The identity of nature
of intermittent and remittent fevers is generally acknowl-
edged; they are believed to be different gradations of the
same miasmata, originating from the same cause, and
spreading throughout a district of country, not by conta-
gious communication from individual to individual, but
by the application to the body of every person who is
infected, of an efficient quantum of the marsh miasms
with which the atmosphere is loaded during their epi-
demic prevalence. This opinion is founded on an ac-
cumulation of circumstances, which renders the contrary
belief impossible. They are both indisputably proved by
an infinite number of facts to originate from marsh
miasmata; they both prevail simultaneously at the
same place; they appear in the same year; though in
one year, one predominates; and in ~~the~~ another year,
the other. Remittent is found to prevail whenever the
miasmata exist in a higher degree of concentration in
consequence of the circumstances and conditions. I have so

often indicates, and when the bodily disposition is great 42
or there is necessity for the, production of intermittent.

They always prevail during the same season, which has
been already pointed out. They also suffer conversions
into each other under circumstances previously
indicated. Finally, they are both of a paroxysmal
tendency, exacting the same general principles of
treatment. These circumstances, with many others that
might be mentioned, have induced the belief that they
are the same in their nature, and differ only in degree,
the force of the cause being, in one case, sufficiently
moderate to enable each paroxysm to terminate com-
pletely for some time before the commencement of the sub-
sequent one; whilst, in the other, it is great enough to pro-
tract the paroxysms nearly to the beginning of those
that succeed them. Of the same nature are the cir-
cumstances that induce the belief that the cause, which,
aggravated to a certain extent, produces remittent fever
instead of intermittent, will, when still further aggra-
vated, produce yellow fever instead of remittent, and
that these diseases are one in kind, and vary only in

8

respect of intensity. I have already indicated the local 43
ity of yellow fever, which in this respect coincides with
the other miasmatic diseases. It is believed to be of a higher
gradation than the others, and accordingly is found only
in those places and at those times in which, I have shown,
the same cause that produced the latter exists in a much
greater degree than is necessary for their production. Whilst
the heats are increasing in intensity and duration, and before
they have arrived at the yellow fever point, remittent is epi-
demic. As the temperature still continues and rises, the fever
increases in malignity and violence, till many cases are of
so aggravated a degree as to influence the suspicion of the
existence of yellow fever. The nature of the disease becomes
a subject of discussion; some declaring it to be the colima-
rr fever of the season, whilst others contend that it is the
tropical epidemic. The cause continues to rise in inten-
sity and with it the fever augments in violence; all
the symptoms come more nearly to resemble those of
genuine yellow fever, the cases become more numerous,
till at last all acknowledge yellow fever to be the prevail-
ing disease. So remarkably is this sometimes the case that

The first part of the book is a history of the
city of London from its foundation to the
present time. It is written in a simple and
clear style, and is full of interesting
facts and anecdotes. The second part is a
description of the city and its environs, and
is also full of interesting facts and
anecdotes. The third part is a history of the
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facts and anecdotes. The eighth part is a
description of the city and its environs, and
is also full of interesting facts and
anecdotes. The ninth part is a history of the
city of London from its foundation to the
present time. It is written in a simple and
clear style, and is full of interesting
facts and anecdotes. The tenth part is a
description of the city and its environs, and
is also full of interesting facts and
anecdotes.

the college of Physicians of Phil^a in their answer to the 44
governor of Penn^a respecting the yellow fever which pre-
vailed in that city in 1797, state, as their principal reason
for believing that the fever of that year was not the ordi-
nary remittent, "that a malignant remittent fever has
never been, to their knowledge, contagious in this climate,"
thus being obliged to resort to the creation of a nonentity
to support a distinction that did not exist. In cities,
from their higher temperature, the disease will rise to
a higher degree of malignity than in the adjoining coun-
try or even in the suburbs, and hence whilst yellow
fever is prevailing in the former, and particularly where
the sources of miasmata are most concentrated, the mil-
der gradations of fever will be found epidemic in the
latter. This is the case in those years in which the heats
are so intense as to aggravate yellow fever into a very
malignant and destructive epidemic. But in seasons
when they are of less intensity, and this disease prevails
but in a small degree in the city, there will be contin-
uous and coepidemic with it both intermittent and
remittent fevers, the great majority of the cases will

[The page contains approximately 20 lines of extremely faint, illegible handwriting.]

be of this latter kind; so much so that the existence of 45th
the former during that season will be denied by many
physicians. This simultaneous concurrence and inter-
mixture of ordinary bilious fevers with yellow fever
was so conspicuously exemplified in each of the nume-
rous visitations of the latter in Phil^a that Dr Rush has
~~well~~ dwelt largely upon it in his history of these epi-
demics. The same truths are amply illustrated in Sir
John Pringle's work on the Diseases of the Army. Not only
do all these diseases prevail in the same place; but the
season of their appearance, prevalence, recurrency and
expatriation is every where the same; for whilst yellow fever
is prevailing in the city and among strangers, intermittent
and remittent are at their height in the country and
among natives; but as the latter are capable of existing
under less force of cause than the former, they always
begin to prevail before the heat has risen to the yellow
fever point, and continue after it has fallen below it;
never^{the}less the period of their greatest prevalence is the same,
for yellow fever has always appeared in our northern cities
at that season, when, in other years, the ordinary miasmata

18
[The text on this page is extremely faint and illegible. It appears to be a single paragraph of handwritten text, possibly in cursive or a similar script. The ink is very light, and the paper shows signs of age and wear.]

diseases were most rife and malignant. The fact, which 46
places the identity of all these diseases on the firmest founda-
tion, is their conversions into each other by the very cir-
cumstances, we would, a priori, and from analogy, suppose
capable of producing such an effect, viz. the state of the weather
and the particular mode of treatment, together with exposure
to or removal from ~~the~~ ~~these~~ a highly miasmatic atmos-
phere. Indeed, yellow fever, particularly when the disease is only
sporadic in consequence of the comparative weakness of the
cause, generally, when of a protracted duration, commences
under the mild form of simple intermittent or remittent
leaving it uncertain whether it will continue of this type
or be aggravated to the severer one of yellow fever; and, in
its decline, falls again into the mitigated form from which
it originated. Upon this subject there is the highest and
most ample testimony. Sir John Pringle was of this opinion
and has furnished us with facts which fully justify his
~~belief~~ ^{belief}. He has also given us the testimony of Dr Huch
Saunders in a communication to himself, ~~and~~ who, from his
opportunity for observation in his attendance on the army
in their expeditions to the French and Spanish Islands and



to America, must be admitted as no small authority. 47
"Even in the most ardent and worse kinds of yellow fever,"
says he, "I think a paroxysm may generally be perceived once
in four and twenty hours. And if the yellow fever were to
be distinguished, in its beginning, from the common remittent
or intermittent fever which was so fatal to our army, it
was only by all the symptoms running higher, and by a greater
degree of the fever when one might have expected remissions."
After enumerating the violent symptoms of yellow fever, he
adds, "I have often seen patients, labouring under most of
these symptoms, immediately relieved by early evacuations,
and the fever brought to intermit. He concludes, "I am
apt to think that these are different degrees of the same
disease, and that it sometimes depends upon the manner
in which the patient is treated in the beginning, whether
he shall have the yellow fever, or only a remittent, or
intermittent fever." Lind expresses the same opinion of
the community of bilious fevers and of the non specific
nature of yellow fever in the following language.
"Having considered this disease with attention, I am now of
opinion, that the remarkable dissolution of the blood, the



violent hemorrhages, the black vomit, and the other symptoms 48
which characterize the yellow fever, are only accidental appear-
ances in the common fever of the West Indies. They are to be
estimated merely adventitious, in the same manner as bloody
stools and bloody urine are in the small pox or as an hicough
in the dysentery. Like these, they only appear when the disease
is accompanied with a high degree of malignity, and there-
fore always indicate great danger." In conformity with this
opinion, he has given us the following decisive fact. He tells
us that, at Greenwich hospital, in Jamaica, "unfortunately
built near a marsh, upon a most unhealthy spot of ground,"
"the effects of this unhealthy situation were, that, when a
patient was sent thither with only a mild intermittent
fever, this mild indisposition was often changed into a malig-
nant fever or the yellow fever often reigned there, attended
with the most profuse evacuations of blood, or when no
such symptoms occurred in patients whose cases had been
similar, and who were permitted to remain in their ships."

The aggravation of intermittents to yellow fever under ex-
posure to highly concentrated marsh miasmata was not
the consequence of contagion in the hospital, for "these things

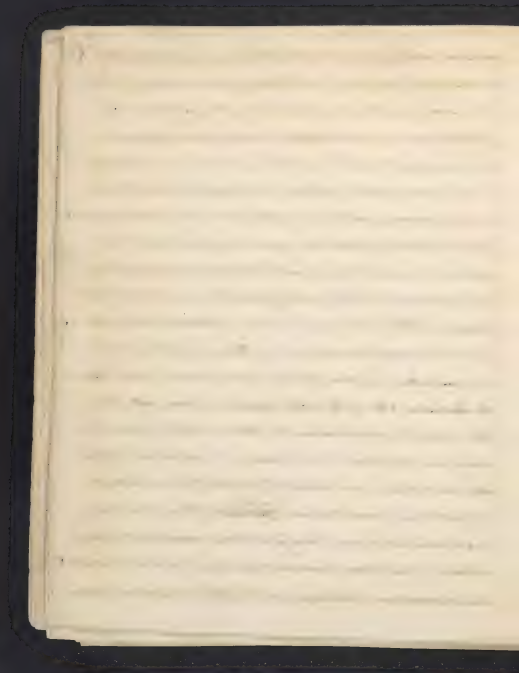
1

Handwritten text, likely a letter or document, written in a cursive script. The text is arranged in approximately 20 lines, though the handwriting is extremely faded and illegible. The page is aged and yellowed, with some visible staining and a dark binding edge on the left.

happened even when there were a small number of patients lying in it, and these lodged in the best aired and in the cleanest wards." Dr Rush, who is a strong advocate for the unity of bilious fevers of whatever type, has provided us with facts confirmatory of this opinion, of the yellow fever of 1797. he has observed, "By depleting remedies, the most malignant yellow fever may be changed into common bilious fever; and, by tonic remedies, improperly applied, the common bilious fever may be made to assume the symptoms of the most malignant yellow fever." In a letter to Dr Miller, the same author, speaking of the epidemic of 1802, holds this unqualified language, "Never has the unity of our autumnal fevers been more clearly demonstrated, than in our present epidemic. Its four principal grades, viz, the intermittent, the mild remittent, the inflammatory bilious fever, and the malignant yellow fever have all run into each other in many instances. A tertian has ended in death, with a black vomiting; and a fever, with the face and eyes suffused with blood has ended in a quotidian, which has yielded to a few doses of bark." These different gradations of miasmatic fevers sometimes consort so much with each other,



and are so dependent on the same circumstances, as 50
to exist contemporaneously in the same garrison among persons
of the same condition as regards every thing save variety
of constitutional predisposition, arising from difference
of temperament or habit. Of this, we have an example
in the fever, which attacked a body of English troops
in their garrison at Marignolau. in July 1808, recorded
by Dr. Dickson of 350 men, 40 were affected with fever,
of which disease, "many had the yellow or enteric fever
of the West Indies, in its most aggravated form, with black
vomits; in others, it was of a more protracted character,
and with symptoms resembling those of typhus; while
the remainder had remittent or intermittent fevers. Upon
the recession also of the sickly season, we generally find,
that, unless the superintention of frost or a fall of rain sud-
denly put a period to the disease, the yellow fever dimin-
ishes in violence, and gradually lets itself down through
the gradations of remittent and ^{intermittent} ~~remittent~~ till it dies away
and is seen no more. Finally, all these varieties are char-
acterized by the same principal symptoms; they are all evidently
of a peroxymal tendency; and the trifling difference between



then is confined to the degree of intensity and force, and 57
is altogether fortuitous, and dependent on circumstances
whose influence has been ascertained and well defined.

Dr Bancroft after a long and elaborate examination of
very many yellow fever epidemics in various countries,
has pronounced the following judgment, which he has
adduced many facts and authorities to substantiate and
confirm. His readers, he says, will have seen that
yellow fever, like other marsh fevers, is always exacer-
ated by great heat, and extinguished or greatly mitigated
by cold; that, between the tropics, it prevails simultaneously
with the milder forms of marsh fevers, violently attack-
ing strangers from cold climates, whilst the natives or long
residents are at most only subject to intermittents or mild
remittents; they will have also seen, that in temperate
situations, this disease in the early part of summer, before
the atmosphere has become intensely hot, is commonly
preceded by, or rather shows itself in, the forms of intermit-
ting or remitting fever, and that when exasperated by excess
of heat, it has subsided, and for some time prevails under
the appearance of an epidemic yellow fever, the accession

of cold weather speedily reduces it again to its milder form, 52.
and that a freezing temperature soon puts an end to its
appearance, even in those forms, as it commonly does to
other fevers occasioned by exhalations from marshes, and
to no others. And they will also have seen, that the
common bilious remittent of hot climates, which is
universally admitted to be the effect of miasmata, differs
from the yellow fever, only by being a little less violent;
that, at the utmost, their symptoms vary only in degree;
and that, in truth, even this difference is often impercep-
tible. /p. 280/ If it be asked why, if yellow fever belong to
the class of paroxysmal or miasmatic diseases, it does not
like these always remit or intermit, it may be satisfactorily
answered, as Dr Bergerson has done, "that for any disease
to observe regular laws, it is necessary that the vital organs
principally affected should continue in a certain degree
of integrity, that their functions should only be disturbed
and prevented to a given point; that they should still be dis-
cernible as functions, and not be utterly overwhelmed and extin-
guished by the violent cerebral action and speedy gangrene
of the stomach that take place in aggravated yellow fever.

72
[The text on this page is extremely faint and illegible. It appears to be a single paragraph of handwritten text, possibly in cursive, covering the majority of the page area.]

As the ulcer of a specific poison that would own a reg 53
tion could according to acknowledged laws, if it be driven
to a high inflammation or sphacelus, no longer belongs
to the original stock, and is emancipated from those laws;
so the violent actions of the above fever impair and destroy
the animal functions by which its crisis and remissions
are regulated, or actually engender a new disease; as new
as the conversion of an ordinary venereal chancre into
a phagedenic ulcer, through the application of a potentia
le caustic." Johnson on Hosp. Clin. p. 368 Therefore, except from
the malignant violence of yellow fever and the reputation
that once belonged to it of being a contagious disease, should
some writers thus turning their backs upon facts and giving
indulgence to their superstitious fears endeavor to invest
this disease with a specific character, and circumscribe it
within such limited phenomena and laws, the mild and
confused small pox, which are considered as the same
disease, are not more alike than the different gradua
tions of marth malady; nor is there a greater similarity
between dysentery and intermittent fever, which are
febrile diseases, than commonly exists between the

1870

1. The first part of the book is devoted to a general history of the world, from the beginning of time to the present day. It is written in a simple and plain style, and is intended for the use of the young.

2. The second part of the book is devoted to a history of the United States, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

3. The third part of the book is devoted to a history of the various nations of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

4. The fourth part of the book is devoted to a history of the various religions of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

5. The fifth part of the book is devoted to a history of the various sciences of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

6. The sixth part of the book is devoted to a history of the various arts of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

7. The seventh part of the book is devoted to a history of the various professions of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

8. The eighth part of the book is devoted to a history of the various occupations of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

9. The ninth part of the book is devoted to a history of the various pleasures of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

10. The tenth part of the book is devoted to a history of the various pains of the world, from the first settlement to the present day. It is written in a simple and plain style, and is intended for the use of the young.

latter and yellow fever; Why not pursue pathological
Minutings and discrepancy a little farther and consider
as a distinct and isolated disease, every individual case
in which there is the slightest difference or variety of
symptom: then we shall have the species of disease
nearly infinite, for who can recount all the intermediate
gradations between the extremes of severity of the same
malady? Of an individual epidemic, the yellow fever
of 1793 Dr Rush has observed that "from the history
he has given, it appears that it comprehended all the
acute and chronic forms of disease to which the human
body is subject." (vol 3 p. 131)

If, as I have every reason to believe, the vari-
ous gradations of bilious fever are the same in their nature;
if all these diseases resemble each other in all the points
in which I have endeavoured to demonstrate a similitude;
a similitude, extending to all essential circumstan-
ces and sufficient to invest these several diseases with the
character of identity of nature, then we have a right to
infer that they are dependent on an identity of cause,
modified in its effects by a variety of ascertained ~~circumstances~~.

1870

1. The first part of the book is devoted to a general history of the world, from the beginning of time to the present day. It is divided into three main periods: the ancient, the middle, and the modern. Each period is further subdivided into smaller sections, dealing with different regions and peoples. The author's aim is to give a comprehensive view of the world as it has been, and as it is now.

2. The second part of the book is devoted to a history of the United States. It begins with the discovery of the continent by Columbus, and follows the progress of the colonies, the struggle for independence, and the formation of the new nation. It then goes on to describe the growth of the country, the expansion of territory, and the development of the various states and territories. The author's aim is to show how the United States has come to be what it is today, and what its future may be.

3. The third part of the book is devoted to a history of the world as it is now. It deals with the various nations and peoples of the world, and their relations to each other. It also deals with the various problems of the world, such as war, peace, and commerce. The author's aim is to give a clear and concise account of the world as it is now, and to show how it is changing.

conditions, which I have already pointed out, As, these 55²
for intermittent and remittent fevers originate from malar
miasmata, so it may legitimately be concluded that yel-
low fever also: and as the former are perfectly independ-
ent on contagion, we have strong reason for believing
that the same is likewise true of the latter disease. If
yellow fever were a contagious disease, intermittent fever
would be contagious also. The contagion of one would
also, produce the other disease, as the contagion of either
distinct or confluent small pox (between which the con-
nexion is not closer than between the two other diseases)
is capable of generating indiscriminately either the one
or the other variety according to certain modifying
circumstances. Having pointed out what has appeared
to me sufficient to account for all the phenomena
attending the history of yellow fever, I might here cla-
rify my remarks on its origin, leaving unnoticed another
reputed cause of it; a contagious principle, its belief
in its derivation from one of these sources, precludes
the possibility of a belief in that of the other, the

The following is a list of the names of the persons who have been named in the course of the proceedings, as far as they are known to the undersigned.

John A. Smith, Esq., of the County of ... State of ...

James B. Jones, Esq., of the County of ... State of ...

William C. Brown, Esq., of the County of ... State of ...

Robert D. White, Esq., of the County of ... State of ...

Thomas E. Green, Esq., of the County of ... State of ...

Charles F. Black, Esq., of the County of ... State of ...

Henry G. Gray, Esq., of the County of ... State of ...

Isaac H. Hall, Esq., of the County of ... State of ...

Jacob I. King, Esq., of the County of ... State of ...

Jonathan L. Lee, Esq., of the County of ... State of ...

Samuel M. Martin, Esq., of the County of ... State of ...

David N. Myers, Esq., of the County of ... State of ...

Ezekiel O. Parker, Esq., of the County of ... State of ...

Nathan Q. Reed, Esq., of the County of ... State of ...

Abraham R. Shaw, Esq., of the County of ... State of ...

Moses S. Stone, Esq., of the County of ... State of ...

Benjamin T. Taylor, Esq., of the County of ... State of ...

Joseph U. Underhill, Esq., of the County of ... State of ...

Simon V. Walker, Esq., of the County of ... State of ...

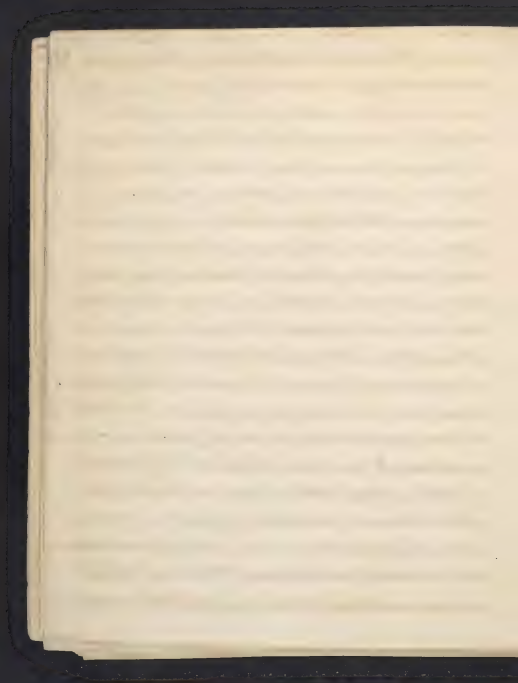
Philip W. Wright, Esq., of the County of ... State of ...

Amos X. Young, Esq., of the County of ... State of ...

Reuben Y. Zane, Esq., of the County of ... State of ...

causes of diseases are limited in their powers of pro- 182
duction; their offspring are as certainly derived from their
own causes, as any species of animal or vegetable is
the progeny of that particular species alone, & miasmatic
and contagious diseases are as incapable of interchanging
their parentage, as the various contagious diseases are of
interchanging their specific derivations. But as some
writers maintain the contagious origin of yellow fever, it
will be proper to regard on its own merits the claims
of this agent to the reputation and rank to which it has
been exalted in the causation of the disease in question.

Though, therefore, the origin, to which I have assigned it,
must exclude any assignment or reference to a contagious
source, yet, for the sake of fair argument, I will consider
as inconsequential and inefficient any conclusions or inferen-
ces that might result from the facts already stated, and,
by starting afresh with this agent as I did with the
other, endeavour to show that contagion cannot account
for the history and phenomena of yellow fever, and should
not be admitted as the cause of this disease though
we were unable to discover any other that was satis-

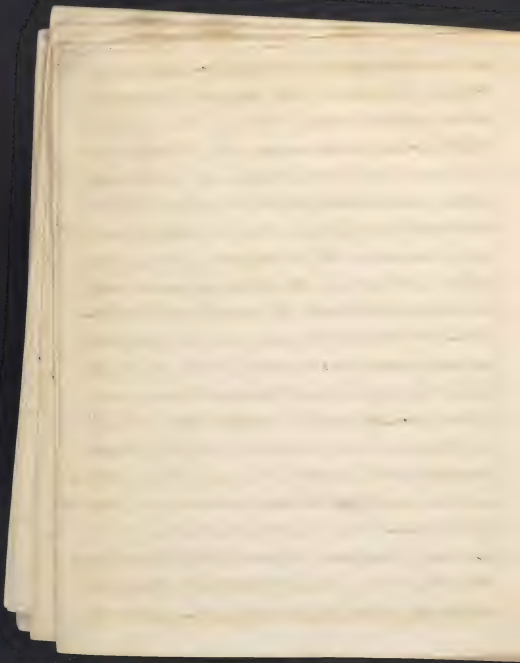


factory, we must reject a wrong solution of a prob. 772
lem, though we are ignorant of the right.

The nature of this essay and the length to
which it has already extended will necessarily confine
me to conclusions and general positions, without a detail
of facts. The dependence of yellow fever on contagion would,
were it possible at all, be susceptible of an easy and satis-
factory demonstration. The proof is perhaps of as simple and
plain a nature as that of the dependence of any effect on
an invisible agent. Narratives and histories of this disease
have been made with great ability, observation, and zeal;
its reputed importation and propagation by contagion have
been strenuously insisted on: the proof is entirely affirmative
and positive: the facts proper and sufficient to establish
this belief are not few in number and confined to a
few places; but of every day occurrence; they happen
by millions every hour in every quarter of the world;
so that it is an extraordinary, nay almost unparal-
leled circumstance that a truth capable of such remark-
able advantages of demonstration should not have been
as firmly established and as universally acknowledged



as the exclusive dependence of small pox on a principle of 582
contagion, the doctrine of the contagion of epidemics
was invented for a political purpose, by the head of the
Christian Church, in the middle of the 16th century. Before
that period, epidemics were referred, (save by that super-
stition which attributed them to the anger of the Gods)
to atmospheric vicissitudes. Medical history traces to
a very remote era the occasional epidemic preva-
lence of yellow fever in all the countries and situations
in which it prevails at the present day. In the cities
of these United States it is known to have appeared as
far back as these records of disease extend. In the West
India Islands it frequently broke out among their
earliest colonists, and the Southern cities of the Span-
ish Peninsula, were severely ravaged by it several
centuries ago. The epidemic diseases, with which Spain
has been greatly afflicted, have occurred very frequently
till the present times, and, though all appear to have
been nearly of the same character, those before the mid-
dle of the 16th century were attributed to the atmosphere;
whilst those, since that period, have been imputed to

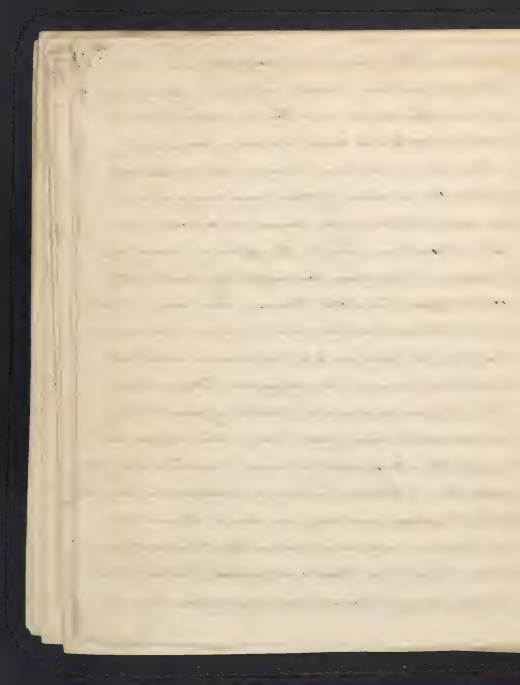


contagion, "tis stranger; tis passing stranger".

59.2

These are notions of nearly instinctive tenacity, and influence that impell us to lay the origin of evils at another's door; and to derive it from a foreign soil.

The history of epidemic diseases tells us that all of them, on the ground of their being contagious, have been imputed to a foreign source and imported from distant countries. Though the offspring of nearly every country, and every where domesticated, they are no where acknowledged. The North Americans have chosen to look to the West Indies for their yellow fever; the West Indians to Africa; the Spaniards to the West Indies and America. The English used to import their plague from Holland; and the Dutchmen from England; the Muscovites from China; and perhaps the Chinese from Muscovy. Whilst Dr. Pryn with indefatigable industry imported by breach of quarantine, the fatal yellow fever of Gibraltar in 1800 from Carthage in transports which were placed in strict quarantine on their arrival. Dr. Burnet, a contagionist, declares that Dr. Riccaud's Physician to the Spanish Royal Hospital at Carthage "positively asserts that the fever of Carthage was brought from Cadix and



Gibraltar in 1810." These different and opposite impositions ^{are} supported by their respective advocates, by long arguments and circumstantial narratives. "These contradictory assertions."

Dr Bancroft has properly remarked, "Some only to manifest the nervous with which the contagionists, who believe that an epidemic yellow fever must always proceed from imported contagion, hazard tales to account for it."

This want of unanimity in fixing on the source of the disease or the place of its importation should be regarded as fatal to the doctrine of contagion.

Dr Hirsch contends for the contagious communication of yellow fever in an impure atmosphere, and disbelieves the disease can be propagated in a pure atmosphere. He has cited instances of its conformity to the conditions under which he says it appears and disappears, and ventures the opinion that the impure air, by chemical combination with the specific virus, becomes specific to it, ~~the virus is not changed~~ and thus the source or original ferment is not changed, but multiplied and greatly increased. That yellow fever is propagated throughout an impure or miasmatic atmosphere and is limited to such



an atmosphere being incapable of appearing ~~by~~ ^{by} it, is p. 61. 2
what every body who denies the contagious of the disease,
most strenuously contends for. He would expect yellow
fever to be coextensive with miasmata that produced
it; nor has Dr. Habsack offered a single fact or reason
to induce ~~it is~~ the belief that it is caused by con-
tagion and not by the miasmatic air. He has merely
asked, why if the disease be not contagious, is the same
disease always produced. We admit both that conta-
gion must produce a specific, contagious disease,
and that miasmata also must produce a miasmatic
disease, of which nature we have contended yellow fever
to be. But the disease induced is not always yellow
fever, for when the cause is not very concentrated all
the gradations of miasmatic disease appear promiscuous-
ly in the same city or district. Nurses and attendants on
yellow fever patients are, from their common exposure
to the miasmata, sometimes attacked with yellow fever,
and sometimes with intermittent and remittent, &c. For the
assimilating process that is contended for, we have the
author's word alone. He has given us, indeed, a few

illustrations of his meaning, and of the nature of the agent. IV Page
24 of his hypothetical ferment, by referring to the
assimilative power of loam, and also of the small pox
virus in converting the fluids of the human body to
the peculiar fluid which may be introduced into the
system. In support of the reality of any such forces
in the atmosphere, the author has supplied neither anal-
ogous reasons, nor facts, which an extraordinary opinion
certainly required. Had it been true of any known
contagion, the author would gladly have mentioned it;
had it been true of the variolous virus that it con-
verts the noxious atmosphere for a great distance into
a specific poison capable of communicating small pox,
we certainly should have been told of it. But even
contagionists admit that the disease can be contracted
only within the sphere of a few feet, beyond which
there is perfect safety; yet we are told, without reason,
that yellow fever is contagious, and that there is no other
way of reconciling this opinion with the fact of its
spreading over a large city in a few weeks except
by admitting that the whole extent of atmosphere has



become assimilated to its peculiar contagion.

28th Feb 2

I will now cite a few cases in which, had yellow fever been a contagious disease, it could not have failed to manifest such property by communicating itself when removed beyond the influence of miasmata. Dr Bancroft, after having investigated the yellow fever epidemics of the West Indies and the United States, makes the following observation, for the support of which he has given throughout his history, the authorities of the physicians who have recorded the particular epidemics. "The fact," says he, "which decidedly proves the yellow fever to be absolute of any contagious power, is that of its never having been communicated to others by any one of the many thousands who, in the West Indies, as well as at Charleston, Norfolk, Baltimore, Philadelphia, New York, &c. were removed beyond the reach of miasmata, while labouring under the disease or after having imbibed its poison, though, in many of these, the disease appeared in its worst forms, and proved mortal".

Another, and if possible, a stronger, proof of the non-existence of contagion in yellow fever, says the same

author is derived from the Hospital, the fact established by
this fact throughout his history, and has subjected in
further confirmation of it the following extract from Dr
Miller's Report:—"no communication of the disease was ever
observed in yellow fever Hospitals, situated at a small dis-
tance from the cities to which they belong. No exception
to this has ever occurred in any of the numerous seasons
of this pestilence at our Hospital at Bellevue. the Marine
Hospital at Staten Island that of Philadelphia or any other
in the United States; provided the malarious air of
the city had been avoided the numerous retinue of med-
ical attendants, nurses, washwomen, servants, &c. which
belong to an Hospital, must be known to every body.

How greatly they are all exposed to contagion, if it could
be supposed to exist in the case, is equally known, yet,
not only all these have invariably escaped the disease,
but likewise all the persons occupied in the removal
of the sick." Dr Miller adds, in a note, that several
persons died of the yellow fever in the almshouse in 1798,
and that "although the house then contained about eight
hundred persons, no communication of contagion took place."

This image shows a blank, aged, cream-colored page, likely an endpaper or flyleaf of a book. The paper has a slightly textured appearance with some minor creases and discoloration, characteristic of old paper. The left edge of the page is bound, showing the stitching and the edges of other pages. There is no text or other markings on the page.

The frequent post mortem examinations of yellow HX 5
fever patients have always failed to communicate the 72
disease. But as if to place the question of contagion
beyond the possibility of a doubt, experiments, devised
with judgment, and executed in such a manner as
to leave nothing omitted or not satisfactorily ascertained
have been instituted by many physicians. Those,
performed by Dr H. Smith at Phil^a in the presence of
several respectable medical gentlemen, are of a very
remarkable character. They are such as almost any
reasonable person would regard as conclusive of the
negative of a question, and such as a thorough going
contagionist would be most likely to call for to decide
the matter, had they been wanting or never performed.

They are of so direct a nature as to decide po-
sitively one way or the other, for it appears to me impossible
if there is any uniformity or stability in the character
of the disease, for the result of the experiments to be one
way, and the fact with respect to contagion to be the other way.

Had the disease been small pox and not yellow
fever, these experiments could not have been made without

the disease having been communicated to the individuals
by whom they were performed. Dr. Smith
inoculated himself with fresh black vomit from a
moribund yellow fever patient; a slight inflammation
ensued, which subsided in three days, and the wound
readily healed. He then continued, by a sticking plaster,
some of the same matter, over a cut in his arm, for
two days; no inflammation ensued. He repeated these
experiments above twenty times, in various parts of
his body. He also put recently ejected black vomit
into his eye, and inoculated himself with the saliva
and serum of yellow fever patients, without inconvenience
or effect. He exposed himself with impunity to the
exhalation of fresh black vomit heated in an iron
vessel, and then swallowed the inspissated remaining
matters made into pills. Finally he drank two ounces
of recently vomited undiluted black matter, and found
it harmless, after having taken without effect consid-
erable quantities of similar matter diluted with water.

Though yellow fever, for reasons already given,
most frequently prevails in large and commercial cities,

18
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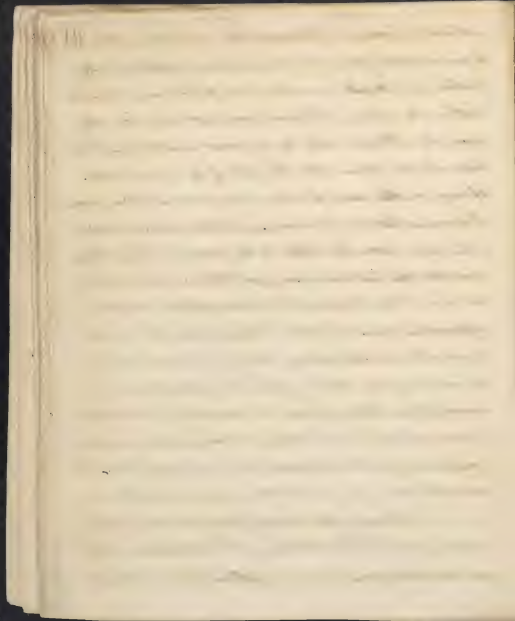
yet it sometimes breaks out in the interior of the country and in situations which preclude the possibility of its having been carried thither by persons affected with it. In the intensely hot seasons of '97, '98 and '99, it appeared in Bald Eagle Valley in Penna. &c. &c. &c. &c.

During the memorable years of 1820, and 1821, whilst intermittent and remittent fevers were unusually prevalent and malignant throughout many of the upper Counties of Virginia and along the Potomac, particularly at Harper's Ferry, yellow fever raged at the City of Alexandria. yellow fever occurred, says Dr Potter, on the Eastern Shore of Maryland in the year '93, "after a spring unusually wet, and a summer as uncommonly hot" (Memoir on Contagion). The same author furnishes evidence of a still more decisive nature. He has extracted, from the journal of a voyage down the Ohio in the year '96 by Mr Ellicott an account of a severe yellow fever that afflicted the town of Gallipolis. The mortal cases were generally attended with the black vomit, "this disease", says Mr Ellicott "certainly originated in the town, and in all

11

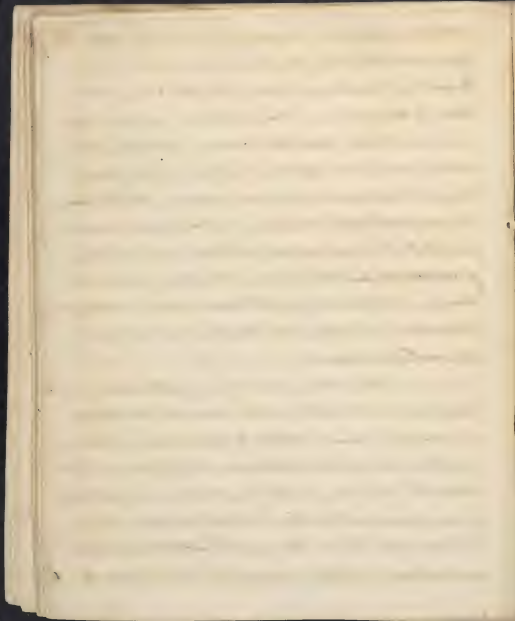
probability, from the filthiness of the inhabitants, added ~~to~~ 15
to an unusual quantity of animal and vegetable putre- 72
faction in a ~~small~~ number of small ponds and marshes
within the village. The fever could not have been taken
from the Atlantic States, as my boat was the first that
descended the river after the fall of the water in the
spring; neither could it have been carried from New
Orleans, as there is no communication at that season
of the year, from the latter to the former of these places;
moreover, the distance is so great, that a boat would
not have time to ascend the river after the disorder
appeared that year in New Orleans, before the winter
would set in; Mr. McLeay, during his travels through
the interior of our country, found the yellow fever in
several places, having seen it previously in our seaports,
he could not have been deceived. For further examples,
confirmatory of the indigenous origin of yellow fever, the
valuable memoir of Dr. Potter may be consulted.

Having thus hastily run over some of the
reasons, which I held decisive of the indigenous origin
and non-contagious power of yellow fever, I shall,

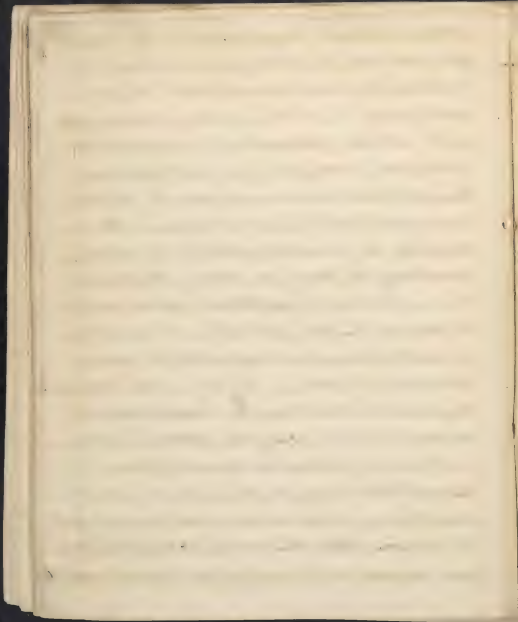


without stopping to comment on what has gone ^{lib 67}
before, but short my remarks on the cause of this
disease by comparing a few of its phenomena with
those of contagion, in order to illustrate not only their
incompatibility but their direct opposition. It
will hence appear that the history of yellow fever
cannot be accounted for by a reference to the pecu-
liar and specific properties of a contagious principle,
but that it is in perfect harmony with the laws
of epidemics, and that, like intermittent fever, the
disease is dependent for its cause upon a miasmatic
atmosphere, and appears or disappears according to
the weather and seasons.

It has been remarked of epidemics, by
nearly all writers, that at their rise, all other diseases
are merged in them or obliged to assume some of their
symptoms, and at their declension, they degenerate into
others. This has been noticed of yellow fever in particular
by numerous authors. Thus Dr Rush mentions, that in
the year 1793, "the influenza, the scarlatina, and a
mild bilious remittent prevailed in Phil^a before the



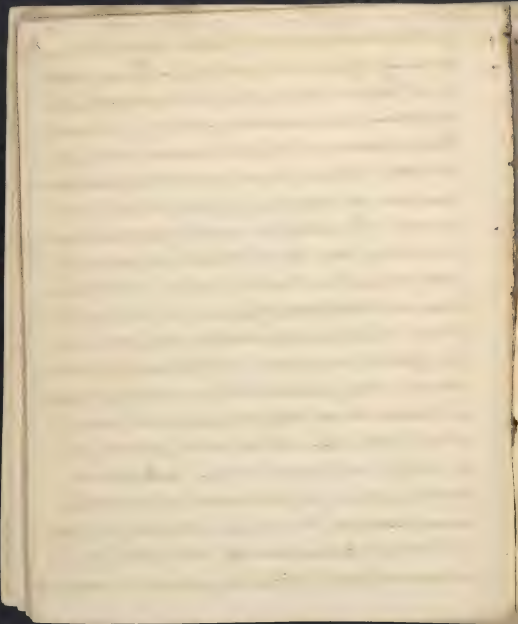
yellow fever made its appearance in the course of a few weeks they all disappeared, or appeared with symptoms of the yellow fever; so that, after the first week of Sept, it was the solitary epidemic of the city." All these diseases, though epidemics, were of less force, in consequence of a less powerful cause, than yellow fever. In all such cases the atmosphere is impregnated with the seeds of the disease. This is evinced by the fact already stated and the extensive prevalence of the disease, as well as by the contagious effects on the vegetable and inferior ranks of the animal kingdom, effects which it is impossible to account for save on the supposition of a noxious atmosphere, vegetation is blasted, and the brute creation languish and die. Even Sir James Fowell has recorded that during one of the yellow fever epidemics in Spain, so poisonous was the air that Canary birds died with blood issuing from their bills, and yet, strange to tell this very yellow fever was imported and propagated by contagion. Here then was an acknowledged cause quite adequate to the morbid effects in question, notwithstanding.



standing which, an unincumbered hypothetical agent, ~~XX~~ 71
resting for its credit on our inability to discover a
sufficient cause, is unreasonably called in to account
for the phenomena - the disease, this evinces a disprop-
riate ignorance of the common principles of philosophy.
It is laid down by the great creation, that "more causes
of natural things are not to be admitted, than are both
true and sufficient to explain the phenomena." Dr Rush
tells us that every person contained the morbid mis-
mate in his body, during the fever of - 93, as was evinced
by various premonitory symptoms, which fell far short
of actual disease, but which only waited for a debilitat-
ing and reception agent to enable them to develop
their effects in full blown yellow fever. It will hardly
be pretended that this could have been the case had
the disease been independent on the atmosphere and
relied for its propagation and diffusion solely on a
contagious radiating from individuals to the distance
of only a few feet and which, in consequence of such
limited radiations, can extend to a comparatively
small number of the inhabitants of a city, the majority

Handwritten text, likely a letter or document, written in cursive script. The text is extremely faded and illegible due to the quality of the scan. It appears to be a single page of writing, possibly a letter, given the structure of the lines and the presence of a closing or signature area at the bottom.

of which number small as it is, have acquired an immunity against its effects from a previous attack in all contagious diseases, and, in one in particular, from inoculation and vaccination. Another very important law of epidemics, and one which forms a prominent distinction between them and general contagious diseases, arises from their capability of affecting the same person repeatedly. All authority is against any such exemption or immunity from repeated attacks in the instance of yellow fever, were it not superfluous all the West India and United States physicians who have seen the disease might be cited to declare that yellow fever does affect the same person repeatedly, though, for reasons elsewhere stated, repeated attacks are not very frequent in tropical climates, though they may occur annually at the North. Those who have claimed for yellow fever the property of contagion, cannot have contemplated how monstrous would be its effects under such an additional means of destruction. A malignant or fatal contagious, attacking the same individual repeatedly! The existence of a being endowed with such exterminating weapons is incompatible



with the continuance of the human race, Suppose 72
the small pox had not conferred an immunity by a
single attack, but affected the same individual repeat-
edly, what precautions could prevent its progression and
constant circulation whilst subjects remained to be opera-
ted upon, which would not cease to be the case till
our species was annihilated. An individual would
have scarcely recovered, ere he would be attacked again,
so that there could be no safety, save beyond the sphere
of the contagion, and by what limits, save by the bounda-
ries of the world, could that sphere be circumscribed.
Even with all the obstacles to its progress, what coun-
try has escaped its ravages? It is by insulating the
sick by means of persons who have acquired an insus-
ceptibility that a contagious disease is prevented from
spreading, even amongst the minority who are liable
to it; but in the case of yellow fever which attacks
the same person repeatedly there could be none who would
be invulnerable; none who could interfere with safety.
And cut off communication by standing like an
impenetrable barrier between the healthy and the sick,

All would be equally liable to the contagion within 73
the sphere of its influence; the disease would advance
in an increased progression, till, at first, communities,
and next the whole human race would be exterminated.
But, happily, no such effects take place. The yellow
fever, after having prevailed for a season, will some-
times die gradually away, and finally disappear, or sud-
denly cease when at the height of its epidemic malign-
ity and prevalence, leaving the great majority of the
community untouched and unharmed. As, therefore, effects
would take place, did the disease depend on a volatile
contagion, which certainly do not take place, the conclu-
sion necessarily follows that yellow fever is not depen-
dent on a volatile contagion. The farther we trace the
history of epidemics in all their phenomena, and throughout
all their nature, and character, to their minutest pecu-
liarities and their utmost ramifications, the more we
shall find them to diverge from the genius and direction
of specific contagions.

The circumstances of the limitation or confinement
of epidemic diseases to particular countries and of their

preference or partiality for certain descriptions of persons, 74
is, hostile to the doctrine of their capability of communica-
tion by contagion. The history of both yellow fever and plague
is very remarkable in these respects. The accounts of the
almost instinctive propensities of this latter disease are
exceedingly curious; and its insuperable likes and dislikes
for certain countries and classes of people have been
accounted for. Dr Maclean in his interesting narrative
of the plague as he saw it at Constantinople has stated
the power of susceptibility to its attack, and has referred
these varieties to the habits, customs, situations, and in fine
to all those circumstances in life which are known
to exert a powerful influence on both the bodily and
mental energies, and which operate with peculiar force
among the mixed and opposite characters of the population
in many of the plague cities of the East. The severe abstinence
from strengthening food for example during certain seasons,
enjoined by certain religions, is one among the many circum-
stances which vary the liability to plague and is of far
more powerful tendency than is probably in general sup-
posed. With the fasting days among the catholics of the



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Lewant, including Greeks and Armenians, are upwards
of 200 in the year, during which they subsist on herbs
or roots and dry bread, the Ramadan, or Lent of the
Mahomedans, lasts but a single month. Besides, we are
told, if the Turks fast during their Lent from sun-rise
to sun-set, they make ample amends for this privation
from sun-set to sun-rise. On these accounts, as well
as from their inhabiting the most elevated and healthy situations
they enjoy an exemption in a far greater degree than
the sallow and emaciated Catholics. There are several other
traits in the character of yellow fever, in common with
all epidemic diseases, which stand out as prominent
features to distinguish it from those which are governed
by the rigid laws of contagion. The farther we proceed in
the particular history and nature of the two species
of maladies, the farther will they be found to diverge
from each other, and the more distinctive and opposite
the laws which regulate them. The forms of contagious
diseases are always alike; the particular disease can
be pronounced with certainty from the beginning; it
is known before hand how long will be the interval

[The page contains approximately 20 lines of extremely faint, illegible handwriting.]

between the application of the contagion and the development of its effects; what will be the order of the symptoms; and what the variation of the disease. In all these respects, yellow fever is very vague, uncertain, and varying, so much so as to throw a character of great multiplicity over the disease, and oftentimes to render its identity in individual cases a matter of dispute.

Again; the progress of yellow fever, outlaws all contagion. Dr Burnet's account of some of the Spanish epidemics is very satisfactory on this head. A great number of facts are at hand for quotation, but I shall be satisfied with one, picked not on account of its superior applicability, but because it is told in a few words. Of the Gibraltar epidemic in 1813, it is observed "that the disease did not spread from any focus, but broke out in fifty different places at once." (p 312)

this we are told is true of all the yellow fevers of that city (p 324) that this is the case with the epidemics of this country also, we have the authority of Dr Caldwell to testify. The Delarue (memoirs, p 110) "that yellow fever will in two or three weeks overrun an extent of city which

Handwritten text on lined paper, likely a letter or journal entry. The text is written in cursive and is mostly illegible due to fading and blurring. The page is numbered '1' in the top left corner. The text appears to be organized into paragraphs, with some lines starting with capital letters. The paper is aged and slightly discolored.

the small pox will not pervade in twice as many 77
months, & to what Cause," he asks, "can such a remarkable
difference be owing? Certainly to this, that small pox
is propagated only by contagion from the sick to the
well, a source of disease which most persons have it
in their power to avoid; while yellow fever is spread by
contaminated atmosphere, which, being a common medium,
has access to every one." "We have recent examples enough
of the wide spread, and almost electrical rapidity and
pervasion of this terrible epidemic. Spain has reason
to mourn over the mortality and affliction of the hundreds
of thousands of her population who sunk beneath the
pestilential visitations of yellow fever that marked the com-
mencement of the present century and rendered it mem-
orable in the history of her calamities. The reports of
Sir James Fowell on this subject are unfortunately
too copious and too true. In the year 1800, upwards
of 48,000, out of a population of 60,000 in the city of
Cadix, were attacked by yellow fever in the short
period of three months. (Fowell p. 420) In the same
year, 46 out of 80 thousand of the inhabitants of

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The text is written in cursive and appears to be a ledger or account book entry. It includes several lines of text, some of which are partially obscured by stains and a large circular mark on the right side of the page. The text is organized into columns, with a vertical line on the left side of the page. The handwriting is somewhat faded and the paper shows signs of age.

ville were afflicted with the same disease, whilst, at 48
the same time, the city of Leris suffered the enormous
mortality of upwards of 10,000 out of the 35,000 of her
population (1440). Seven thousand of the population of
Malaga perished in the autumn of 1803; (p. 95) and
a still greater number in the following year. In 1804,
three fifths of the population of Gibraltar were swept
off by yellow fever during four months (pp. 75 & 449).

The same year is memorable from the yellow fever
epidemic which afflicted 23 of the cities of Spain, the is
computed by Bancroft and Fellows to have lost 120,000
of her population. In 1813, nearly three thousand of the
inhabitants of Gibraltar were seized by yellow fever,
notwithstanding eight thousand of her people fled the
city at the commencement of the epidemic and escaped
an attack - without lengthening this list, which were
easy, suffice it to enquire whether these things could
be true of a disease, propagated from individual to
individual by a contagion which is believed to
radiate but ten feet from the person affected in a
sufficient degree of concentration to communicate

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disease? Another query for solution on the contagious 79
hypothesis must occur to every body, what puts a
sudden stop to these epidemics? What extinguishes
at once a disease, when the quantity of contagion is
so abundant, sufficient to overrun the whole world?

It can not be the reduction of temperature or any
quality or state of the atmosphere; for these touch not
the matter of contagion, and therefore cannot effect
its efficiency and power: We would expect such
a cessation in all miasmatic diseases, and accordingly
we find such a cessation, under the very circumstances
in which we would a priori pronounce it must
happen, we would not expect in contagious diseases,
and accordingly we do not find it in them. Another
proof that yellow fever is not contagious is that it never
has been propagated in a pure air or beyond the sphere
of the miasmatic atmosphere. This fact is so literally
true, that, in cities, the vitiated districts are sometimes
so accurately marked, that the epidemic cannot over-
leap their boundaries. These positions are admitted by
even the Contagionists, the cases in illustration of them

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Handwritten text, likely a letter or document, written in cursive script. The text is faint and mostly illegible due to blurring. It appears to be a single page of a letter, with a small number '1' in the top left corner. The text is written in dark ink on aged, slightly yellowed paper. The handwriting is a cursive script, possibly from the 18th or 19th century. The text is arranged in several lines, with some lines starting with capital letters. The overall appearance is that of a historical document or a personal letter.

are so numerous, unequivocal, and well defined, as to place the matter beyond suspicion, and render any citation of them superfluous; for why should that be attempted to be proved, which nobody denies; such an attempt would be in the language of Dr Johnson, but to "convince those who had no doubt before."

Here there is no other fact than this, on which to found the belief in the non-contagiousness of yellow fever; it would settle the point beyond the possibility of controversy, if a miasmatic air is a *sine qua non* to a disease, that disease cannot be contagious.

Almost all the Physicians and Surgeons of the British fleets and armies in intertropical latitudes have no belief in the contagion of yellow fever: in the West Indies, the opinion has been long since abandoned not only by medical men, but by the intelligent part of the inhabitants. In the United States, of those physicians who have seen the disease, a very minority adhere to the doctrine of the last century.

The French Academy of Medicine during the last year, unanimously declared and published their

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incredulity. Of those, who have had experience of
the disease, the Spanish physicians alone still cling
to the doctrine promulgated by the head of their religion.
It belongs to the creed of the nation, is interwoven
with their superstition, and enforced by the rigors
of the law. Unhappy Spain, is now weighed down be-
neath the pressure of a brutalizing despotism, is still
overshadowed by the gloomy darkness of the middle
ages, and has never shared in the reformation in religion
or government, which has enlightened and animated
many of the other nations of the world. A sombre melan-
choly is reflected over the intellect of the country in
every department of science. A nation several centuries
behind its fellows, it would be unreasonable to expect
her to keep pace with them in the department of med-
icine. It must be revolutionized in government before
it can advance in literature and science. Then we
may expect it to reject the doctrine of the contagion
of yellow fever, when proscription and banishment
shall have ceased to be numbered amongst its fre-
quent consequences.—

